AMERICAN FRUIT GROWER

MAY 1931

ORCHARD SOIL MANAGEMENT

GEORGE WASHINGTON, FRUIT GROWER

WHAT WILL AN APPLE ORCHARD COST ME?

THE WONDER TOUR

THE FRUIT SURVEY

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AMERICAN FRUIT GROWER

VOLUME 51 | MAY, 1931 | NUMBER 5

OUR NEW LOCATION

THE OFFICES of AMERICAN FRUIT GROWER have been moved from 53 West Jackson Boulevard at the extreme southern edge of the Chicago "loop" to the Merchandise Mart on the north bank of the Chicago River.

Merchandise Mart is said to be the largest building in the world. However true this may be, it is certainly the first large building to be erected wholly on what are known as "air rights." The land beneath the building is occupied by the freight yards and railroad tracks, nine in number, of the Chicago & Northwestern Railroad Company, the owners of the land.

From the living rock hundreds of feet below the surface, 400 concrete and steel pillars arise and on these pillars, above the traffic of the railroad yards, the mammoth building rests.

Some idea of its immensity may be gained from the fact that its 23 stories comprise a floor area of over 4,000,000 square feet. The many miles of corridors are lined on each side with six and one-half miles of plate-glass windows, as the building was constructed for the convenience of manufacturers of and wholesalers in merchandise of every description.

Eighteen passenger elevators and 14 large freight elevators are required to serve the needs of the tenants.

To our subscribers who make a practice of calling at our office when in the city, a brief bit of direction may be given. Get off the elevator at the eleventh floor, turn left down the long corridor, at the end of which, to the right, a cross corridor ends at the door of our offices. Come in, and welcome.

FRUIT CONDITIONS

WITH THIS issue we begin again the publication of our reports of conditions in the fruit growing sections of the United States. These reports are not in any sense to be taken as "crop reports," such as are periodically issued by the Bureau of Agricultural Economics. Instead, they are to give our readers an intimate idea as to general conditions prevailing in the fruit sections of the United States. As some weeks must elapse between the time of writing these reports and their appearance in the columns of AMERICAN FRUIT GROWER, due allowance should be made for changing weather conditions which may have occurred during that time.

Manifestly, the appearance of these reports, if continued throughout the season must necessarily crowd out from our pages many seasonable articles on fruit culture, and we should like our subscribers to let us know their preference in this matter.

During the summer and fall months, would you prefer that we devote the available space in this magazine to a portrayal of fruit conditions as in this issue, or would you prefer that these should be given in more curtailed form with the usual amount of material on cultural practices?

This magazine is published to serve its readers, and we will appreciate receiving an expression of your opinion in this matter. A postal card will suffice for the purpose.

ILLUSTRATED FOLDERS ON "WONDER TOUR"

THE PROPOSED tour of AMERICAN FRUIT GROWER subscribers into the Pacific Northwest, California and Old Mexico is meeting with a cordial reception. In addition to the large number of American fruit growers who have expressed their determination to take part in the trip, several residents of the British Isles have announced their intention of coming to America for the express purpose of taking part in this tour.

The 16-page illustrated folder has been prepared and has now been received from the printer ready for distribution. This folder gives the complete itinerary of the tour, with a brief description of many of the more interesting highlights of the trip.

It is suggested that those who may be interested in taking this trip that have not already written should send one of the coupons appearing in this issue or simply write a letter asking for the Wonder Tour folder. Another installment of the description of AMERICAN FRUIT GROWER Wonder Tour will be found in this issue.

THE TERMINAL AGENCY

With the collapse of the Federated Fruit and Vegetable Growers, Inc., it was to be expected that the associations formerly marketing their products through that organization would seek to have the Farm Board set up a new co-operative sales agency to operate in the terminal markets. Also that the Board would promptly acquiesce to the demand.

It is likewise fairly certain that any such sales agency for fruits and vegetables, operating under the direction of the Farm Board, will secure the sales contracts of far more of the fruit and vegetable shipping organizations than the old Federated could ever hope to secure.

When the new organization goes into operation it may be predicated it will have a respectable tonnage under control and will ultimately become one of the greatest factors in the terminal markets.

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DAYS YOU'LL NEVER FORGET

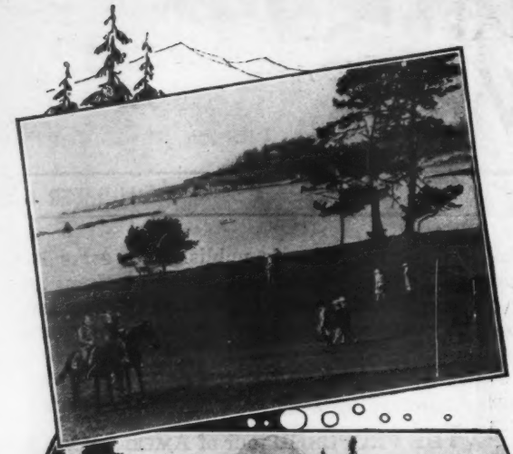
ON THE

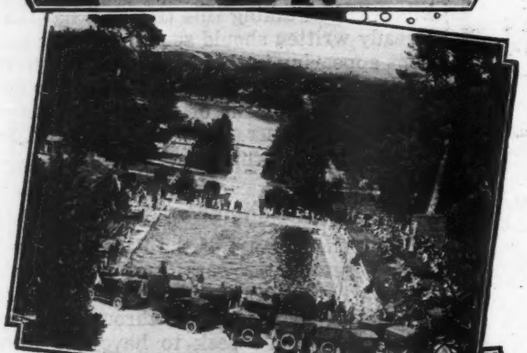
AMERICAN FRUIT GROWER WONDER TOUR

OF

PACIFIC NORTHWEST - CALIFORNIA - OLD MEXICO

JULY 18 to AUGUST 3, 1931





The golf course at Pebble Beach, Monterey Peninsula, Calif.

Mt. Rainier from Reflection Lake.

Roman Plunge at Hotel Del Monte.

Airplane view of the business section of Los Angeles.

A dash of Old Spain. City market, Juarez, Mexico, where tourists barter with the natives.

NOW THAT WE have given you the details of this escorted all-expense tour of the year, which starts from Chicago on the electrified, scenically supreme Milwaukee Road and covers 5500 miles of the West's wonders, let us tell you even more of the thrilling particulars of several red letter days of the itinerary; an itinerary so chock full of marvelous things to see that it's a job in itself to choose the outstanding sights. However, we'll attempt it by giving you highlights on a few places that other folks have found most interesting in the past.

Crowning the endless attractions of the Pacific Northwest, included in the first half of our journey, is, of couse, Mt. Rainier National Park. Here reigns the mighty monarch of America's mountains. Like all the higher summits of the Cascades, it was once a fire mountain, with a complete cone like that of Fujiyama in Japan, and its crater rose 2000 feet above the present crest. Jets of steam still penetrate the ice and snow near the summit, and hot springs flow at its foot. The upper half is glistening white with snow and ice; the lower portions are a purplish-black from the sweeping forests of conifers; and between them stretches a two-mile belt of wild flowers, 50 miles in circumference — perhaps the most wonderful wild flower garden on earth.

Skipping a few interesting days in the Pacific Northwest, which were described in our last issue, let's move quickly to another memorable day of sightseeing—at San Francisco, one of the most cosmopolitan, romantic and fascinating cities in America. Its great harbor, one of the finest in the world, brings to its streets people of every nation. Here, along the waterfront, Jack London and many another famous writer found material for their stories. Yet, after all is said, San Francisco's most mysterious and thrilling section is its famous Chinatown—a district whose entire population is Chinese, whose atmosphere is completely Oriental—a large Chinese town in the midst of an American metropolis. Twenty square blocks bristle with fantastic pagoda roofs and are gay with lantern-hung balconies. There are strange restaurants, offering even stranger food; bales of exotic merchandise with aromatic odors; dainty pajama-clad Chinese children and expressionless adults. You'll find the shops delightful with their silks, jades, lacquer ware, fans, unfamiliar confections and ivory carvings.

San Francisco is a city of exuberant gayety: its restaurants, cabarets and theatres are famous. You'll mark it in your memory as one of the most wonderful cities you've ever visited.

After leaving San Francisco, the next stop on our itinerary is another of the "high spots" of the tour—Monterey and Del Monte, California. Perhaps no part of California is so rich in historic and romantic associations and scenic interest as this region.

Our party will stop at the Hotel Del Monte, world-famous as one of the West's finest resorts. Del Monte is surrounded by some of the loveliest flower gardens on earth. Tennis courts, a Roman swimming pool, two golf courses, four polo fields, facilities for yachting and fishing—are offered sport-loving guests. Starting from Del Monte we will take the noted 17-mile drive which encircles Monterey Peninsula, passing through Del Monte Forest and along picturesque cliffs that border the Pacific to Pebble Beach and Del Monte lodge, with its famous golf course, then on to enchanting Carmel-by-the-Sea.

Monterey itself, which is included in the drive, is particularly interesting. It was the first

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GEORGE WASHINGTON: FRUIT GROWER AND GARDENER

By JAMES HAY, Jr.

WITH ALL of the States of the Union and the cities of the country appointing their commissions to co-operate with the Federal George Washington Bicentennial Commission in planning for the celebration of the two hundredth anniversary of the birth of the Father of his Country, we are reminded that this tribute will be paid to a man who, in addition to his greatness as a soldier and a statesman, was an eminent figure in the agricultural life of his time.

He was a farmer who specialized in many phases of agriculture; and he paid particular attention to the growing of fruits and flowers. That is to say, he was a successful horticulturist and gardener.

Washington has been portrayed countless times as the cold and undemonstrative man of affairs, but at heart he was also an artist, a lover of beauty.

GEORGE WASHINGTON
The athenaeum portrait by Gilbert Stuart.

Airplane view of Mt. Vernon, showing how effectively Washington used trees and shrubs in landscaping.

The Mt. Vernon greenhouse, rebuilt exactly as Washington constructed it from plans drawn by his own hand.

"I shall begrudge no reasonable expense," he wrote to one of his managers, "that will contribute to the improvement and neatness of my farms, for nothing pleases me better than to see them in good order, and everything trim, handsome, and thriving about them; nor nothing hurts me more than to find them otherwise."

Ugliness and lack of order repelled him. In June, 1787, when he was in Philadelphia, he rode out to see America's first botanical garden; and in his diary he comments, "Rode to see the botanical garden of Mr. Bartram, which though strewed with many curious trees and shrubs and flowers was neither large nor laid out in much taste."

Riding over his Mount Vernon estate in the early days of spring, he got intense enjoyment from the panorama of nature. An April entry in his diary tells how he noticed with pleasure that "the flower of the sassafras was fully out and looked well—an intermixture of this and red bud, I conceive, would look very pretty—the latter crowned with the former or vice versa."

He was, however, far from stopping at appreciation of the beautiful. He was very much the utilitarian in growing his fruits and trees. In 1760, writing in his diary on his birthday, he said: "Laid in part the worm of a fence round the peach orchard." Nobody knows now exactly where this collection of peach trees stood, but, according to tradition, it was on the slope above the old tomb.

He corresponded for years with the Englishman, Arthur Young, author of the "Annals of Agriculture" and the leading scientific farmer of that time, exchanging views with him on almost every conceivable subject having to do with farming. Much of this correspondence dealt with the cultivation of fruit trees, and Washington soon developed unusual skill in growing and grafting fruit trees.

In 1763, for instance, he wrote in his diary that he had "Grafted 40 cherries, viz 12 bullock hearts, 18 very fine May cherry, 10 coronation. Also grafted 12 Magnum Bonum plums. Also 4 nuts of the Mediterranean Pame in the pen where the chestnut grows—sticks by east. Note, the cherries and plums came from Col. Mason's; nuts from Mr. Green's. Set out 55 cuttings of the Madeira grape."

Similarly, in the spring of 1764 and the next year, he was busy grafting English mulberry scions on wild mulberry stock; and in 1768 and 1771 he set out grape vines below his vegetable garden.

Still later, in 1775, he has much to say in his diary about grafting more cherries and planting peach seeds.

His entries, moreover, are not all about planting. He speaks again and again of the pleasure with which he gathered with his own hands the cherries, mulberries, plums, and grapes whose size and flavor were due to the skill with which they had been planted and brought to fruition. He was particularly fond of eating nuts after dinner and comments more than once on the fact that he had to limit his indulgence in them.

In 1775 he was busy planting the "Mississippi nut" or pecan. In 1786 he set out, with many other imported plants, 46 pistachio nuts, and in 1794 he was delighted with a shipment of a bundle of "Poccon (pecan) or Illinois nuts" which his friend Thomas Jefferson had forwarded from Philadelphia to him at Alexandria.

There was not a fruit known at that time which Washington did not grow and with which he did not make experiments in attempts to improve their appearance and taste. In this work he displayed marvellous patience, setting down with painstaking care every step in every test, with comments on the results.

He had his troubles in harvesting his fruit. In those days, as in these, there were people who made off with the fruit of another man's industry.

"In raising fruit, as in many other things," says Paul Leland Haworth in his "George Washington, Country Gentleman," "he was troubled by the thieving propensities of the slaves. September tenth of this year he records that because of the scarcity of apples and the depredations that were being committed 'every night upon the few I have, I found it necessary (tho much too early) to gather and put them up for Winter use.'"

Then, too, like horticulturists throughout the ages, he knew what it was to arise morning after morning and see a continuation of the

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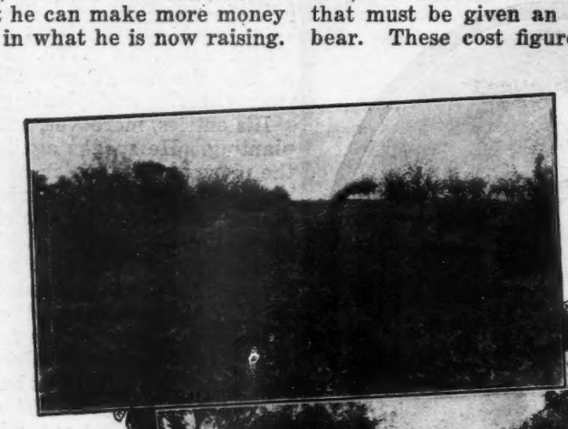
WHAT WILL AN APPLE ORCHARD COST ME?

By J. F. HOLMAN

THE FIRST THING that enters the mind of the prospective orchard grower is the matter of cost, because that determines whether or not he can make more money in apples than in what he is now raising. Failure to foresee costs that will pile up before the tree is of bearing age account for the deserted orchards one frequently sees. In many cases the owner will lease his orchard at a ruinous rate and let someone else reap the harvest because he has not enough capital to carry the job through.

In addition to knowing the gross cost per tree, which is higher than most think, it is also of prime necessity that one know what items make up this figure, in order that the greatest returns may be received when the orchard is of bearing age. The figures which I will give are those gathered in co-operation with the Missouri College of Agriculture, from 18 major apple orchard growers in Missouri.

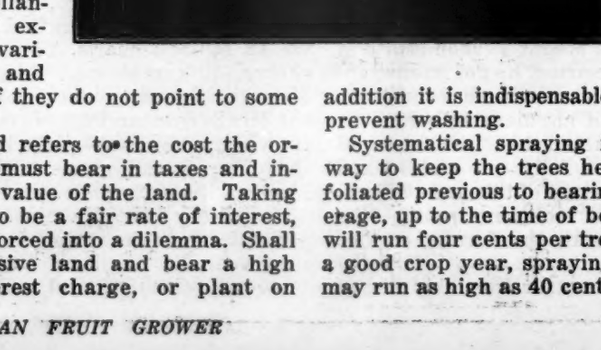


Part of an orchard seeded to clover to prevent erosion and add nitrogen to the soil.

These 23-year-old trees have never produced a profitable crop because of erosion of the surface soil caused by constant intercropping with corn while the trees were young.

A young orchard belonging to the same man. He is not making the same mistake twice. The sweet clover between the trees is piled around them as mulch.

A seven-year-old tree ruined by the split of a weak crotch. Two minutes pruning when the tree was two years old would have saved this tree, which has cost the owner about $4.60.



A poorly sprayed Jonathan orchard nearly defoliated by scab.

Allowing eight years on the average before the orchard is of active bearing age, it is found that the owner has spent nearly $6 on each tree by that time. Part of this figure may be charged to interest, which becomes a sizable item when compounded. Receipts were found to be $1.17 per tree, making the net cost about $4.50. This may seem discouraging to the prospective grower, but when he considers that it is the initial expense that is the greatest, and that up to that time he has not even had a crop, he should see reason for going ahead. In computing these figures, all profits from intercrops, such as corn, truck garden produce, clover or such, have been included, because they are generally a good source of income to defray cultivation costs during the early years of the orchard.

The cost is highest during the first year, and slacks off until the fifth, when the lessened space makes intercrops impractical. Pruning and spraying costs also increase. About the eighth year costs again rise, with the trees requiring more sprays when a crop is at last in prospect. Starting out the first year with 61 cents per tree, because of the initial outlay for stock and planting, the cost drops to 39 cents the second year. By the fifth year, it is up to 95 cents per tree, falling during the next two years, and in the eighth rising to $1.20 because of the increased care that must be given an orchard about to bear. These cost figures come from 11 sources; use of land, nursery stock, setting trees, wrapping trees, cultivation, spraying, pruning, orchard supplies, use of equipment, interest, and miscellaneous. I will explain these various factors and we will see if they do not point to some conclusions.

Use of land refers to the cost the orchard owner must bear in taxes and interest on the value of the land. Taking six per cent to be a fair rate of interest, the owner is forced into a dilemma. Shall he use expensive land and bear a high tax and interest charge, or plant on cheaper land?. But the very things that make the land high-priced—location and fertility—offset the increased land-use costs. Favorable location permits roadside marketing, lowers freight rates, and lessens loss in transit, while fertile soil increases the quality and quantity of the crop. The item of land costs averages about 40 per cent of the total.

Nursery stock is a small item of expense, only five per cent of the total cost of raising an apple orchard. While one can often purchase year old trees for 25 cents, it is poor economy to cut costs in this item, and in the long run it is profitable to exceed this figure. Replacements must be considered as well, because when a tree dies, not only the cost of the tree is lost, but land use charges continue. A new tree will eventually make up for the loss, whereas if it is not replaced, the space is a total loss.

Tree wrapping to keep off rabbits and other rodents proves a good but inexpensive piece of insurance. A wrapper of one-inch mesh poultry netting costs about three cents, and repellent washes no more, if as much. The loss of a single tree costs more than the wrapping of several acres.

The costs of cultivation must naturally vary, depending on the intercrop, which absorbs the major, if not entire, part. If corn is planted up to the trees, nearly all the cost can be charged to it and if green manure, such as clover or vetch, is sown, the cost will seem high if one does not take the increased soil fertility into consideration.

Winter vetch costs about 15 cents per pound and by sowing from 30 to 40 pounds to the acre one gets as much nitrogen into the soil as though he had spread 20 tons of barnyard manure. In addition it is indispensable to hillsides to prevent washing.

Systematical spraying is the cheapest way to keep the trees healthy and well foliated previous to bearing. On the average, up to the time of bearing, this cost will run four cents per tree annually. In a good crop year, spraying may run as high as 40 cents

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ORCHARD SOIL MANAGEMENT

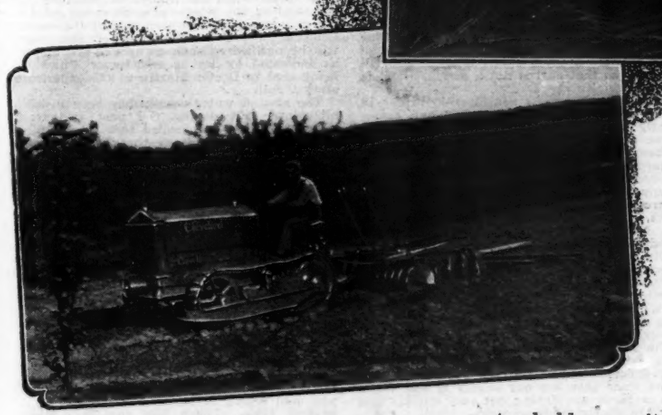
By T. J TALBERT

A FLEMISH INVESTIGATOR about 300 years ago placed a willow sprout into a tub containing about 200 pounds of soil. After a period of five years the willow weighed 160 pounds. The investigator found upon weighing the soil that it had lost only two ounces in weight. During this five-year period nothing was added to the soil but water, as far as he knew. As a result of this experiment, there arose the question, "What caused the growth?"

This was one of the first experiments in soil investigational work; and research today leads us to believe that there are a great many substances added in water, taken from the air, and stored in the soil.

Moreover, less than 200 years ago it was the general belief of those who made a study of soils and soil fertility that the chief problem was cultivation. In other words, many thought that all we had to do to make a soil productive was to cultivate. Our ideas have changed as a result of careful experiments, observations, and study over long periods.

Soil management has, therefore, developed rapidly within the last 50 to 100 years. Orchardists and those best acquainted with soils and soil management are generally of the opinion that the soil and its fertility and upkeep are fundamental for the growing of all crops. This applies with equal force to orcharding and the growing of horticultural crops generally; in fact, there is a tendency as we become better acquainted with horticultural problems to give our soils and their management more careful investigation and attention.



Above.—A good growth of volunteer grasses in orchard after applying stockyard manure.

Left.—Cultivating a young orchard with a tractor and putting under a cover crop.

The plant food idea involves the taking out of the soil of various elements of plant food. Three of these elements, carbon, hydrogen, and oxygen, are generally supplied in ample amounts by water and air. Our soils usually supply in abundance quantities of iron, magnesium, calcium, and sulphur.

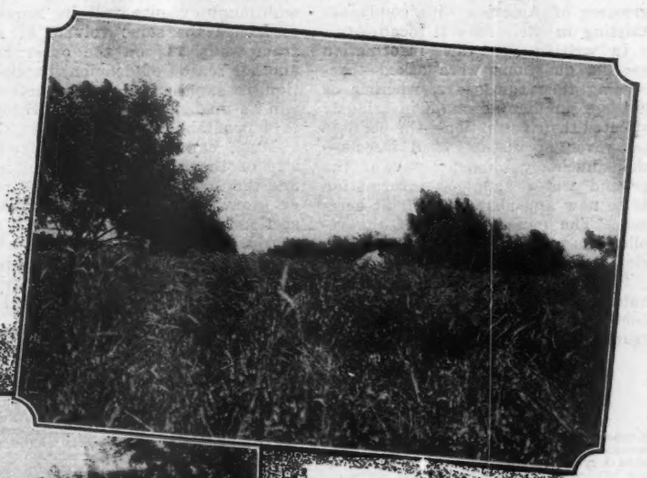
It is common knowledge that there are three other very essential elements for plant growth, namely, nitrogen, phosphorus, and potassium. In almost every case if any plant food is needed in the soil it is one or more of these three elements.

In our present studies and notions based upon research and observations of soils and soil fertility, it is necessary to consider another factor. This factor is the supplying of organic matter, or humus. Information generally indicates that organic matter is more and more important for the growth of all kinds of crops, and particularly tree crops. Organic matter may be defined as any plant or animal material that is plowed down and forms humus. Our problem consists of acquainting ourselves with the effect of this upon the soil and the amount that is needed or required for profitable crop production.

When one speaks of a run-down soil, he generally means a soil that is lacking in organic matter. If the soil is lacking in organic matter, it is also in need of nitrogen and available mineral plant foods. It is obvious, therefore, that the producer must keep up an adequate supply of organic matter in the soil if he is to maintain the nitrogen content and water-hold capacity and secure profitable yields.

One of the chief and most important problems in orchard soil management, therefore, is to maintain the organic matter in the soil. There are many ways whereby this might be done. Some of the most important of these consist of applications of barnyard manure, the growing of leguminous or non-leguminous cover crops and plowing them under, or the plowing under of grass and weeds which have been allowed to grow upon the soil.

It has been estimated that every ton of barnyard manure contains about 500 pounds of organic matter. Other estimations indicate that when we remove from the soil plants in the form of hay or fodder and feed them to animals, we lose perhaps 50 per cent of the organic matter in the removed plants. That is, more organic matter would be incorporated in the soil if we plowed the crop under than is obtained by taking it off and feeding it to livestock and then returning the residue. As to which method is more profitable is a question upon which all will not agree.



Rye cover crop in young apple orchard.

It should be understood that when applications of manure are used an unbalanced fertilizer is added to the soil. The manure is high in nitrogen, low in phosphorus and high in potash. Using a ratio compared to that of a commercial fertilizer, it would rate about ½-¼-½. With this knowledge, therefore, it would seem wise to reinforce the manure in order to extend its value. About 40 pounds of superphosphate to a ton of manure may extend its value as much as one-third or more.

The term "cover crop" was first used by Prof. L. H. Bailey about 1893 in Bulletin No. 61, New York (Cornell) Experiment Station. The idea of a cover crop meant to make a cover for the land as well as afford winter protection and to also obtain from the soil surplus moisture and available plant food materials. The idea of a green manuring crop is also included for maintaining soil fertility.

The cover crop as now used may take moisture and plant food from the trees in July and August, slow up growth and harden them off, making them more capable of withstanding low temperatures during the winter season. The cover crop may also conserve the nitrogen supply. A better medium for the growth of plant roots is believed to be secured with the incorporation of the cover crop in the soil. The water-holding capacity of the soil is greatly increased. The breaking down and disinte-

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THE FRUIT SURVEY

BY C. G. CAMPBELL

IN RESPONSE to many requests from our readers during the past year, we are again inaugurating in this issue the monthly fruit survey. We find fruit growers are very much interested in knowing the general conditions prevailing in all fruit sections of the United States and it is felt that a general report at this time would give to the readers of AMERICAN FRUIT GROWER the type of information they have requested.

The reports which follow have been contributed by county agents, who have taken time from their well-filled hours to acquaint the fruit growers of America with conditions existing in their several localities.

In writing for this information specific questions were asked—concerning the fruit spurs, whether or not last summer's drought injuriously affected their formation—the possible carryover of diseases and insects—the sufficiency or deficiency of the ground water supply — information as to new and abandoned fruit acreage. The general tenor of the replies, it will be noted, follow very closely along the lines suggested.

Summing up the report, it may be noted that the great drought of 1930 does not appear to have affected the fruit buds. As these buds are formed in early summer, the drought could not, of course, have affected their number, but there appears to be more or less general feeling that the buds might have been weakened by the long drought. This appears not to be the case generally at least.

There is, however, some grounds for apprehension in the condition of the ground water supply. In the event of a season of normal rainfall, shortage of ground water will not be noticeable except in certain irrigated sections where the volume of storage water is low or ground water tables have fallen to the extent that heavy additional expense will be required to secure the same volume of flow from wells. If on the other hand another season of deficient precipitation is experienced, many orchards will be unable to carry fruit through to a profitable size.

Much can happen to reduce the size of the fruit crop between now and the first of June; hence the rather glowing reports from nearly all sections are not to be taken too seriously at this time. And as most of these reports were written during the middle of April, late spring frosts may have an opportunity to entirely alter the picture by the time this May issue is in the mails.

THE NEW ENGLAND STATES

MAINE

Kennebec County was not affected by the drought of 1930. Apple trees will probably have a normal bloom. Many orchards are being abandoned as unprofitable and not many new orchards being set. The disease situation will probably be much the same as last year. —*C. A. Day.*

NEW HAMPSHIRE

Hillsborough County. Not as heavy a set of fruit spurs on our apple trees as a year ago, due more to large crop of 1930 than to dry weather. Dry seasons of 1929 and 1930 have not been favorable for an excessive amount of scab and other fungous diseases and we do not anticipate that as many of the spores will be carried over on the dead leaves as there would be following a wet season. We expect some trouble from codling moth, plum and apple curculio, and apple maggot or railroad worm.

The Extension Service has been making an intensive drive to get people to destroy all seedling apple trees, wild crabs, wild plums, hawthornes and any apple trees which are not sprayed and cared for within 100 yards of commercial orchards. These wild and uncared for trees harbor and serve as breeding places for the apple maggot.

The ground water supply was low all during the winter but the melting of the heavy snows and the heavy spring rains have remedied this situation. About 50 per cent of our commercial orchards are non-bearing and 25 per cent between the ages of eight and 18 years. Each year brings more trees into bearing. The orchards were well taken care of last summer with the exception of a few old Baldwin orchards which were not picked. From the amount of fertilizer and spray material being purchased this spring I judge the orchardists plan to carry out their regular schedules.

The weather did not get cold enough during the winter to injure the peach buds in our few commercial orchards. The deep snow protected the strawberries and small fruits and they came through the winter in good shape. —*E. W. Pierce.*

VERMONT

Rutland County. The commercial fruits we have in this section are apples. The main variety is McIntosh, with Northern Spys and Delicious as a second and third. I do not believe that last summer's drought seriously affected formation of fruit spurs, which is an indication that we will have somewhere near an average bloom this year.

There was considerable scab throughout this whole section last year and although our commercial fruit men sprayed religiously, they were unable to control it. There is probably considerable scab infection carried over, also in a few orchards there has been considerable damage done from blight during the past few years. I look for quite a bit of this disease in the infected orchards this coming year.

We have quite large acreage of young trees that were planted in the county during the last 10 years. We will have about the same number coming into bearing in the next five years as we have had during the last five. Our fruit men do not seem to be greatly discouraged over last year's crop and seem rather optimistic over the coming season.—*T. D. Cook.*

MASSACHUSETTS

Worcester County. The ground water supply is as good as last year. The apple buds seem to be in good condition, with a better than average supply of fruit buds. Except in rare instances, I do not believe the drought of last summer has affected the bud formation. Carryover of diseases and insects will be about normal, as far as we can determine.

There is only a normal increase in bearing acreage this year, with no commercial orchards abandoned. The spraying was better than usual last year. The growers' courage is good this year.

Peaches seem to be budded fairly well and only in the very lowest locations have they been frozen out.

Pears, grapes, strawberries, and other small fruits are apparently normal.—*F. E. Cole.*

Hampshire County. There was a large crop of apples in this county in 1930 so that growers are not expecting to have as much fruit this year. Peaches have come through the winter very well in general. I haven't much information on strawberries and small fruit but expect they are in good condition since we had a covering of snow practically all winter.

We did not have a serious drought in this county last year so that I doubt if fruit spurs are seriously affected. In general, fruit growers gave their orchards very good attention last year and I would not expect any more than an average amount of carryover from disease.

There may be a small new acreage of apples coming into bearing this year but not large enough to be significant.

Of course, fruit growers are rather discouraged with prices obtained last winter, but I am sure that all the good growers will continue to practice good cultural and spraying methods this year.—*A. S. Leland.*

Franklin County was not seriously injured by the drought last year. Our trees and small fruit made normal growth, and considering the large crop of fruit that was borne last year, the trees and fruits appear to have set a normal amount of fruit buds.

They have come through the winter in pretty good condition, peaches being better than would have been expected from the low temperature which we had on one day. Snow came early and stayed all winter. As a result, strawberries and other small fruit wintered well. The snow has gone slowly, with the result that the water has been mostly absorbed by the soil, and I believe there is a normal supply of moisture.

It is a little early yet to say much about the condition of disease carryover, but we had no unusual infections of scab or blights last year so have no particular reason to expect unusual conditions as regards these diseases or insects.—*J. H. Putnam.*

CONNECTICUT

Fairfield County. Last summer's drought did not seriously affect the formation of fruit spurs on any of our native fruits. Carryover of diseases, such as scab, leaf curl, etc., is apparently going to be as heavy as usual. Scab spores have already matured and will be ready to develop and spread on the occasion of the first continued rain.

Our water supply has been deficient but not short enough to seriously affect any of our crops. Its greatest inconvenience locally has been in the matter of dried wells, springs, etc. Within the past two weeks we have had some very heavy rains and these have filled the reservoirs, and many of our well and spring supplies are getting back to normal.

Last year's management, as far as our own local conditions are concerned, was about the same as in any previous year, although I expect if everyone had realized that prices were to have been low last fall there would have been some letting up on the usual vigilance of control. Apples and peaches are the two main fruits in this county and pears, grapes, strawberries and other small fruits are only grown in a small way, mostly for retail trade. —*L. M. Chapman.*

RHODE ISLAND

Providence. The condition of fruit trees and bramble fruit, together with vines, in my territory, is very good. There has been very little winter injury and I do not think that the drought of last year has hurt the bud or spur formation on any trees in this section.

Last year there was very little disease injury on fruit trees and it does not appear that this year there will be a large carryover of diseases from 1930. Although some orchards were infested with scale and curculio last year, the damage was not excessive.

In some orchards the lack of sufficient moisture last year was very evident and perhaps this lack will have some significance on the condition of fruit trees this year. There is no large acreage of new bearing trees for this spring. The varieties which will come into bearing will be mostly McIntosh and Delicious. As a general thing, orchardists gave good care to their orchards last year and although the prices they received for fruit were not very satisfactory, they are planning to take good care of their orchards this year.—*W. H. Wood.*

Newport. There was apparently very little injury to fruit spurs in this county due to the effect of last summer's drought. Such diseases as blight, scab and curl will probably be somewhat prevalent, but no great difficulty has occurred in the past in controlling them with proper fungicides. Due to a very mild winter, the number of insects will probably be large during the coming season.

The ground water supply at the present time is probably above normal for the average year. Ponds and reservoirs are full. There are no orchards being abandoned and about the usual percentage of new trees will come into bearing this year.

Most of the growers practiced fairly good cultural methods in spraying last season. There are, of course, some orchards that are not properly sprayed.—*S. D. Hollis.*

MIDDLE ATLANTIC STATES

NEW YORK

Greene County. I do not think last summer's drought was injurious to formation of fruit spurs. The indications are now that there will be a very good blossom on most all varieties. There is always a carryover of both diseases and insects.

Fire blight was more severe than usual last year but peach leaf curl and scab were less severe. More scale showed up last year than there had for several previous years, but rosy aphis was practically out of the picture. Codling moth was undoubtedly the cause of our greatest insect injury.

Though we have had dry seasons for two years I do not feel that at the present time there is a deficiency in ground water supply. There will be a few young orchards coming into bearing and there will be a few old ones abandoned. I do not believe that in either case the number of acres will be out of the ordinary. Our growers generally gave good culture and spraying last season. I think perhaps there was a little let-up at the end of the season but there seems to be the usual amount of interest in spraying for the coming crop.—*E. G. Brougham.*

Orange County. The dry season of 1930 apparently did not seriously affect the formation of fruit buds. In general, apples are budded somewhat lighter than last year but with the exception of McIntosh and a few other varieties which bore very heavily last year, the set of fruit buds would be considered about average. Peaches are budded slightly lighter than last year but they came through the winter with much less frost injury than a year ago.

Fire blight was prevalent in the county last year and there will doubtless be holdover cankers to initiate infection this season if weather conditions are favorable. Owing to the extremely dry season of 1930, apple scab was not a serious problem in commercial orchards. The majority of orchards were relatively free from scab throughout the season. This should reduce the amount of inoculum in the old leaves and unless we have a wet season scab should be fairly easily controlled when the regular spray schedule is followed. Practically all peach growers apply the curl spray in the fall or spring so that curl is not a serious problem in commercial orchards.

Codling moth caused considerable injury in a few orchards late last summer and consequently there were probably more of these larvae carried over winter than usual.

There are a few small apple and peach orchards coming into bearing this spring. Very few orchards are being abandoned or neglected as unprofitable.—*C. C. Davis.*

Monroe County. In the case of the tree fruits, apples, pears, peaches and cherries, they seem to be pretty well budded and apparently as vigorous as usual, showing practically no evidence of injury from drought. Insect and disease carryover is always large in this territory and from all I can see is practically normal, with possibly two exceptions. Aphis eggs seem to be scarce and we have much larger supply of codling moth wintering over than ever before.

The supply of water in the ground is still quite deficient. Up until early March it was very deficient. We have had some rains and snows since then but our supply is still short. The orchards are drying out very quickly and they are nearly ready to work.

By long odds, the most of our orchards are still taken care of but a few more men quit each year so that in the last five or six years we have had quite a large number of orchards join the neglected ones.

The only exception to the above general statement that I know of is one or two fruit growers who reported the loss of a large percentage of their peach buds and as yet we have not been able to assign a cause for this, as we certainly did not have winter temperatures low enough to cause killing—*R. C. Coombs.*

Chautauqua County. The summer of 1930 was very dry in the fruit belt of Chautauqua county, and the wood growth of all fruit was somewhat restricted. However, grape growers report that the wood was better this past winter at the time they were trimmed than it has been in several years, and that they had no trouble in finding enough wood to leave on the vines. Prospects are for a fair to big crop of grapes this season. However, it is still a bit early to tell very definitely.

Apples and peaches also give promise of a fair crop during the coming season.

During the past few years grape growing has been rather unprofitable, except for those with the best vineyards getting higher yields. Some of the vineyards more poorly situated as to topography and soil conditions are being more or less abandoned. The farm bureau grape committee in this county is working on the grape growing situation and one of the recommendations that will be made is that all vineyards producing one ton of grapes or less on the average per year should be abandoned.

The severe snow storm during the middle of October last fall did considerable damage to all orchard fruits and small fruits. The leaves were still on the trees and considerable breakage resulted. However, the currants and raspberries promise an average crop this year.

A form of red spider was very serious on currants last season, and plans are being made to carry on work to determine best control measures for this pest during the coming season.

Strawberries over-wintered in very good shape.

There is no surplus of water this spring and unless more rain falls in the near future, conditions will be very dry.—*C. K. Bullock.*

Columbia County. Fruit tree conditions seem to be exceptionally good this year. Also raspberries and strawberries have come through the winter well. Climatic conditions through the winter and so far this spring have been very fine for fruit and trees are budded well. We have no drought damage.—*A. B. Buchholz.*

NEW JERSEY

Hunterdon County. Present indications are that there is a good bud set on all kinds of fruit. I have yet to find a dead peach bud. Last summer's drought did no damage in the formation of fruit spurs in this section. Where heavy fertilization was practiced last summer, there was considerable twig blight on apples. Whether the dry weather had anything to do with this or not, I am not sure. So far as scab is concerned, it is at present a serious question, and we are making arrangements to meet this condition by applying a special scab spray when the spores are mature. We are sending out a special scab spray card to the growers in the southern half of the county. Growers in the northern half of the county will be notified as soon as spores are mature, as indicated by last year's leaves which are being sent to Doctor Martin at the experiment station daily.

The ground water supply has been deficient all winter but during the past two weeks heavy rains have remedied this condition. In summing up I would say that fruit prospects in this county are excellent at the present time because we have had a late spring, that is, the buds are nearly two weeks later in developing than they were last year, so that the possibility of frost injury is not very great. —*E. A. Gauntt.*

Gloucester County. Last summer's drought affected certain varieties of apples more than others. At the present time the bud set on Stayman, Paragon, Winesap and Rome is rather light in this county, with the exception of some young orchards in which the crops were light in 1930. Henry Clay, Ducheas, Wealthy, Transparent and Starr are well budded in most of the orchards.

The wood growth of peaches was very little last season, however, peaches are heavily budded in all orchards in this county. Blight last year was severe on some varieties of apples and seems to be on the increase at the present time. Peach leaf curl is a disease that I have never seen in this county. A light infestation of scab last year caused considerable trouble in many orchards. There is no question but that the carryover of scab spores is exceptionally great. At the present time scab spores are maturing in this section. The carryover of codling moth is the heaviest that I have ever seen since I have been in this section.

The soil moisture supply is still deficient. We have had during the past six weeks considerable rain but we are at least 12 inches below normal for the year.

Last year our fruit growers took just as good care of their orchards as they have in any previous year. No orchards to my knowledge are being abandoned in this section. Thousands of unprofitable varieties of peaches have been pulled out during the last few years. Many new orchards of both apples and peaches have been set the past few years in this county.—*G. E. Lawb.*

PENNSYLVANIA

Allegheny County. Present indications point to a successful fruit crop in the county this year, especially in the orchards that have been receiving good care. Peach trees seem to be well covered with good strong buds. Apples

also are in good condition. At this writing the earlier blooming varieties are beyond the delayed dormant stage.—*H. R. Eby.*

Washington County. Fruit prospects for 1931 are good. Indications point to a heavy peach bloom and at least a fair bloom on apples. Development of small fruits was retarded by drought last year but an average crop is expected this season.

Diseases and insects were held in check to some extent by weather conditions last season and about a normal infestation is indicated for this year. Most growers kept their plantings in good condition last year in spite of poor returns.

Moisture supply at present is adequate but soil reserves are low and less than normal rainfall will seriously retard development.—*E. H. Fulton.*

Somerset County. Last year's drought affected this county very little. Indications are that there will be a normal fruit crop. Bud development is about three weeks later than last year, which fact ought to point towards a good fruit year. Peaches are of little consequence in this county. Very few commercial strawberry fields and only a comparatively few farmers grow enough for family use.

It is questionable whether there is sufficient ground water supply. Some of the subsoil is showing up very dry. No acreage will come into bearing this spring. There is a slow abandonment of farm orchards.—*C. C. McDowell.*

Westmoreland County. The drought of last year so far as can be seen now has not materially injured the fruit crop for the present year. The ground water supply at present is also sufficient to care for the spring growth. I have also examined some of the peach buds and have yet to find one that is injured.—*W. L. Treager.*

Wayne County. The drought of last year was not severe in northeastern Pennsylvania and consequently Wayne county fruit growers did not suffer any financial loss in this respect. The fruit spurs seem quite normal and it is expected they were not damaged any last year. At present there is sufficient moisture in the soil due to the heavy spring rains.

No doubt there will be the usual carryover of apple scab and insects. A good thorough job of spraying has given good control of all the apple diseases and insects. The fruit growers who followed out the spray service information as given out by the Wayne County Agricultural Extension Service and the Department of Entomology and Pathology of the Pennsylvania State College had unusually good control last year.—*J. E. McKeehen.*

Lancaster County. Up to the present time there seems to be an exceptionally heavy set of peaches, pears and a fair set of apple buds. The apple buds are numerous enough but owing to the drought of last summer they do not seem to be as full as they normally should be. There has been little heaving and little frost injury this winter so that the condition of small fruits, grapes and strawberries appears exceptionally good.

So far as disease is concerned, I see no reason why the carryover of diseases should be as great this year as it normally is. The large amount of summer weather last year was not constructive to the development of the usual fruit diseases. However, late twig blight on some apples and many pears was more severe last year than at any time during the last decade.

So far as the ground water supply is concerned, I will say that it is not yet up to normal, although there has been marked improvement during the last two months and rainfall has been about normal for the first time in 17 months. Springs that have run about dry have again started to flow, though the flow is not yet up to the normal amount.

Our growers did not become discouraged last year and went through the regular spray schedules. If anything, our growers made greater efforts last year to grow a crop of fruit than they did a normal season. Many of them were not rewarded for their efforts and more of them found it a losing proposition; however, with our diversified system of farming, it requires more than one season to knock our men out. They are going at it again this spring with the confidence that the season will be normal and that they will be rewarded for their efforts this season.—*F. S. Bucher.*

SOUTH ATLANTIC STATES

MARYLAND

Allegany County. We find fruit spurs in this county generally satisfactory. The reaction is that buds and spurs are in better condition than we had any reason to expect. Personally I believe we are going to have more trouble with diseases than we have had for quite some time, particularly apple scab. It is difficult to give any estimate of the ground water supply. It is quite probable that it is below normal. If no rains should come from now on trees are likely to suffer considerably. Some orchards have been abandoned as unprofitable in recent years. The orchards were very well taken care of, I think, last summer.—*R. F. McHenry.*

VIRGINIA

Loudoun County. Fruit spurs are generally small and at this date do not appear to be normal as to numbers. Well fed peach trees in commercial orchards fared better than apples, as to fruit bud development. So far as we can see, all other fruits fared similar to apples.

The carryover of insects and diseases should be small, as our apples here were fairly free from scab and insect injury, many neglected orchards showing remarkable freedom. I personally feel that both diseases and insects fared badly last summer and that the 1931 crop will show it (if we have any). We feel that there is considerable question as to fruit setting on weakened trees. No new acreages here come into bearing this spring.

Early spraying and pruning last year was rather better done than usually. All commercial growers carried out the spray calendar for Virginia.

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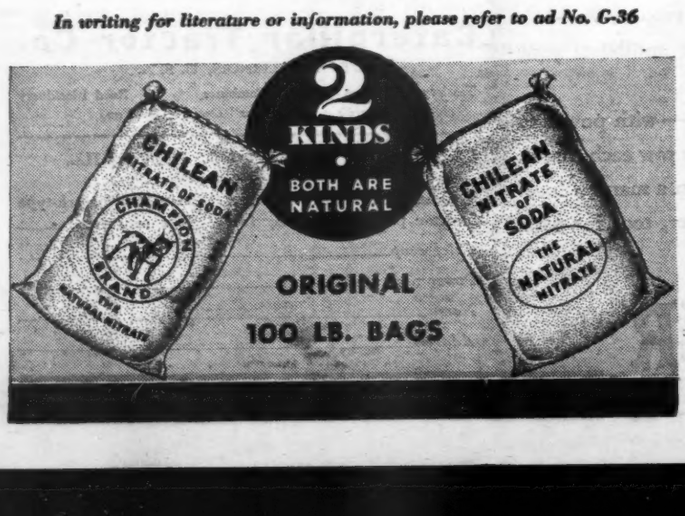


Our apple growers kept up surprising morale. Our volume of apples going to market was small and quality generally poor; they were tough.—*J. R. Lintner.*

Shenandoah County. Last summer's drought probably affected the fruit spur formation in certain orchards in this section, and the buds appear to be weaker than usual but everything at the present time points to a good crop of apples and peaches in this section. The buds are starting out at the present time and some orchard men are applying the delayed dormant spray today (April 11). This is about two weeks later than usual.

The ground water supply is still deficient for fruit crops but we have had more than a normal rainfall since the first of the year. A very small new acreage will come into bearing this year. Very few orchards are being abandoned. The orchard men gave their orchards good sprayings and cultivations last year but on account of the drought all cover crops were failures.—*G. G. Dickenson.*

WEST VIRGINIA

Hampshire County. The apple and peach outlook is very promising. There is a nice lot of buds and they are perfectly dormant at this date. Of course, the drought hurt them a lot and we have no idea how much until after the June drop. We are afraid that they will be weak and that the June drop will be very heavy. We have tried to offset this by applying our nitrate earlier than usual so as to add strength to the weakened buds.

We have had a very deficient ground water supply until the past week and we hope and feel now that the drought has really broken and that we will continue to get water in the ground.

Most of our growers, especially the larger ones, did everything they could to help their orchards last year. More cultivation was practiced than ever before and many of our growers trucked water for miles to keep the trees from dying. Some even added nitrate of soda to the water to give the trees more strength. Even with all this care and trouble, hundreds of trees died from the drought.—*D. I. Law.*

Mineral County. Fruit prospects are very good. The buds are still dormant and indications are that there will be a normal crop. The drought reduced the vigor of the buds some but I think they will come through in fine shape.—*J. E. Prettyman.*

Morgan County. There is a very heavy set of fruit buds, especially of Yorks. Fruit buds were very small and apparently injured. What effect this will have on this year's crop remains to be noted later. An abundance of fruit spurs were formed last year but they are stunted in growth.

There is a heavy carryover of codling moth due to the hatching last year of a third brood—an unheard of happening in this section. The carryover of blight is not excessive. Many trees that were infected with the blight have died—especially Ben Davis. Scab injury was very light last year.

The ground water supply is abundant. The acreage that will come into bearing is fully sufficient to take the place of trees injured by the drought. I do not know of any orchards in this county that have been abandoned as unprofitable. Local orchard owners gave their orchards better culture and spraying last year.—*H. C. C. Willey.*

NORTH CAROLINA

Wake County. Most of the owners have carefully pruned and sprayed their trees and now have bright prospects for a good crop of fruit this year. I do not believe that I have ever seen the trees in heavier bloom than they are this season.

Peach trees have already shed the petals. We believe that the crop is safe and are looking for a good crop this season. The drought did not seriously affect the fruit crop in this county last year.

Most of the owners of home orchards are giving their trees better treatment this season than in previous years. We are expecting a good crop of both peaches and apples. Very few grapes, strawberries, and other small fruits are grown in this county, except for home consumption.—*J. C. Anderson.*

Madison County. Indications are that we will have a good fruit crop this year. Was in one orchard that was not in heavy fruiting last year and blossoms were thick, though not out. In another that fruited very heavy last year, there was a liberal supply of buds, though not as large as in the other.

We had, for this section, real winter from before Thanksgiving on and everything is about 10 days late now. If cold weather has any effect, the insect crop should be damaged, but I do not know.

No new acreage of any extent in this county. I believe that there is more water in the ground now than for a year and a half or more. Heavy rains a week ago, following lighter ones previously, and these coming in such a manner as to allow water to go into the ground, have filled the land. Springs, streams and other signs indicate plenty of water right now.

Only a few do much spraying around here. About the same last year as usual. No culture given; sod method followed.

All the small fruit is late. Peaches alone are in bloom and barring later unfavorable weather should be good. Grapes only swelling now and strawberries just starting to grow buds.—*E. Brintnall.*

Henderson County produces apples, grapes, and small fruits rather abundantly. We cannot produce peaches on account of the frequency of winter or frost killing of the crops. We produce very few pears.

There is an abundance of fruit spurs on the apples, and these seem to be in a most healthy condition at this time. I do not notice undue presence of disease at this time and it is my opinion that there will not be more than the normal amount. Our orchard men carried out their culture program last season as well as usual.

The ground water supply has been somewhat deficient until recently. It now seems to be about normal, and our rainfall shows that to be the case. There will come into bearing soon some 9000 to 10,000 trees. No orchards are being abandoned here.

Strawberries and raspberries do exceptionally well here and the acreage planted to these crops is increasing. However, this acreage will continue to be limited by the lack of sufficient markets.—*O. B. Jones.*

SOUTH CAROLINA

Anderson County. Strawberries and other small fruits promise only a light crop due to the drought of last summer. The outlook for apples is good with a large number of fruit spurs. The outlook for peaches is good with a heavy bloom. With the late variety of peaches, last summer's drought retarded wood growth and the crop promised to be light. The grape outlook is good. The vines made satisfactory growth regardless of the late drought. In all varieties of fruit there is no indication of serious carryover of diseases and insects. Peach curl will probably be bad.

Soil moisture is the best we have had in many years due to snows and winter rains which fell just right to be carried in the subsoil. Spraying was carried on just about as usual and is being followed up now by the second spray.—*S. M. Byars.*

York County. We have between 200 and 300 acres of peaches. The trees had a good crop of bloom and have not been seriously damaged with cold to date. The drought was not very severe on them in this section last year and I think that the fruit spurs developed somewhat near normally. We do not expect any exceptional damage from insects or diseases.—*L. W. Johnson.*

GEORGIA

Carroll County. Only three commercial orchards here and these are very small. I do not think the drought of last summer was serious enough in this section to have much effect on the fruit buds of this spring. We have had a very mild winter and I expect fruit tree diseases and insects to be more numerous than usual. The few orchardists that we have looked after their orchards very carefully last year.—*G. F. Wiley.*

Jones County. Last summer's drought did not seem to hurt the crop this season. Most of the orchards were cared for last season and the trees are in good condition. A few orchards will come into bearing this season but just as many will go out due to neglect and the fact that some of them have passed the stage of profitable production. Most orchards were sprayed and cultivated last season.

Indications at the present time are for the largest crop we have had in a number of years, as there was a good blossom and not much rain fell during this season, but the May drop will take a large amount as some of the growers were not able to use enough fertilizer.—*J. Chappell.*

Lee County. The outlook for a crop of peaches is fair. A dry fall and winter has probably had some influence in holding down disease and an unusually prolonged cold winter has been favorable to insect control. Growers are taking the usual precaution in spraying and will do so as long as the need is shown.—*H. J. France.*

Pulaski County. The summer's drought did not injure the peach crop. We have the largest peach crop that has been produced here in years. The water supply is low. Will not have any new acreage coming into bearing. Some orchards are being abandoned.—*O. D. Hall.*

Upson County. About two weeks ago we had a severe hail storm which covered an unusually large area of the peach belt. About 25 per cent of the blooms were knocked off, but we had a heavy set and so the hail served as a thinning process and should not affect the financial returns. Of course, some local areas had more damage, and in some of the orchards where the bloom was not particularly heavy there will be a reduction in those crops.

In our local jarring experiments for curculio, we find them emerging later this year, with the first emergence in number occurring on April 4. On account of the fact that the curculios were late this year only a few growers applied the first spray, which means that they will have to hurry with the second spray (shuck spray) to secure coverage of peaches as protection from this insect.

The wild plum eradication campaign which was conducted under my direction in Upson county on March 9 was very successful. Some 200 growers, labor foremen, laborers met at the court house in Thomaston and from that point went in trucks to all parts of the county, eradicating wild plum bushes and wild seedling peach trees under the direction of the growers. It is planned to make this an annual event.

Last year the growers in this immediate section followed cultural, disease and insect control practices better than they had in years.—*A. J. Nitzschke.*

FLORIDA

Highlands County. Oranges and grapefruit are the leading fruits produced in this county and we ship out annually several thousand cars of these citrus fruits from this county. Our crop this year, which is about three-fourths harvested at this date, has been one of the biggest crops we have ever had, but prices have not been as good as they were last year. Valencia oranges are now netting the growers from $1.50 to $1.85 on the tree. Marsh Seedless grapefruit, is now bringing around $1.00 per box on the tree. We have had an excellent bloom this season and weather conditions for citrus for the past several months has been nearly ideal. Our moisture supply has been very adequate and in addition to the trees being in good condition, those who have sown cover crops also have been in fine shape. It looks as though this county would have nearly as big a crop next year as we have had this past season. The majority of our growers have changed from clean cultivation to the growing of cover crops, mainly crotalaria, which is an excellent legume introduced by the United States Department of Agriculture and the Florida Experiment Station. Our growers largely are changing to the use of the very much cheaper inorganic fertilizer and are taking other steps to reduce their production costs.—*L. H. Alsmeyer.*

Lee County. We have approximately 8000 acres of citrus fruits in this county, composed mostly of the Duncan variety of grapefruit, which is an exceptionally early grapefruit of excellent quality. Lee county is noted for its early varieties of good quality grapefruit. We

have an average annual production of about 500,000 boxes of citrus fruit.

The groves and trees are in a healthy, thrifty condition; had a heavy bloom with a heavy setting of fruit. The moisture conditions have been excellent; we have been getting plenty of rain.

We have about 150 acres of mangoes, which is a tropical fruit, but on account of heavy rains these have not set a heavy crop. The mango has very peculiar flowering characteristics and with rains during the blooming period, the blossom does not become fertilized. —*W. P. Hayman.*

Orange County. The strawberry season for this year is over and the yields and quality were unsatisfactory, though the prices were good. There will perhaps be 75 acres producing for next fall and winter shipping.

As to citrus fruits, we have had a very satisfactory bloom and the moisture supply in the soil is good, so that we are expecting a little above a medium crop for next year, following a very heavy crop this season. There will perhaps be 500 acres come into bearing next fall and perhaps 100 acres abandoned this year.

The citrus trees have had about the usual care and will continue to be cared for, though we are learning to reduce the cost of production and at the same time produce a higher quality of fruit. This is one of the things for which the extension division and the county agents of our State should receive credit.—*K. C. Moore.*

EAST CENTRAL STATES

INDIANA

Brown County. Fruit trees are now in bloom. The weather is very favorable. From all indications there will be a big crop. Berries are also doing well. The drought did not affect the crop as far as we are able to determine at this time. Probably 100 acres of new plants will come into bearing this year. —*R. E. Grubbs.*

Jackson County. While this county is not a leading fruit district, we do have a half dozen commercial orchards. The prospects for a full crop of tree fruits of all descriptions was never better. Apples and peaches are loaded with blossoms. Our spring has been cool until the last few days. Peaches are almost in full bloom and apparently last summer's drought did not interfere with the formation of fruit spurs.

We have had some splendid rains during the last month which have taken good care of the ground water supply. Our commercial growers continued to take care of their orchards last year and I do not anticipate at this time that there will be an unusual amount of disease trouble this year.—*W. P. Stall.*

Knox County. Our fruit is in excellent condition at this time. We probably never had as many fruit buds as there are at the present. Unless we have abnormal weather, it will be necessary to trim off the buds of the apples and peaches to get the quality of fruit desired. Disease conditions seem to be under control but the ground water supply is somewhat short but with reasonable rains it will be able to carry over.—*H. S. Benson.*

OHIO

Columbiana County. I do not believe last summer's drought seriously injured the formation of fruit spurs. There is probably considerably less carryover of diseases, particularly of scab. The carryover of insects may be greater than usual. The ground water supply has been deficient but rains during the last week or two have relieved that condition. There will probably be a slight increase of bearing acreage this spring. I know of no commercial orchards being abandoned as being unprofitable.

I think the orchard men who make a practice of good culture and spraying largely carried on the usual practices last summer. Some may not have applied the later sprays when they found there would be little fruit.—*F. Lower.*

MICHIGAN

Allegan County. While we had a mild winter, all buds stayed in dormant condition until the last few days and are in about normal condition now. Apples: There was a heavy crop of Duchess and Transparents last season and we look for a rather light blossoming this season. Trees in good condition. In the late apples there should be a much larger crop than last season as this is the Baldwin year for us. Trees came through the dry weather of last year in fairly good shape and conditions are now favorable on most of the late varieties.

Pears: There was a very heavy crop of Bartletts and Keiffer last season and indications are for a very light bloom of these varieties. Clapps Favorite will probably be a good crop and there should be a fair yield of other varieties.

Peaches: A heavy crop last season but trees in orchards that were well cared for are showing enough buds to give us a fair crop if conditions are favorable from now on.

Cherries: Both sours and sweets seem to be fairly well budded. Too early to tell much about them as our troubles generally come around blossom time.—*J. A. Barron.*

Oceana County. The drought was not so serious last year but what we will probably have a fairly good crop of fruit in 1931. We, of course, have had a light fall of snow and are having an early spring so it is impossible to tell what spring frosts are going to do to us. Our heavy crops are cherries, apples, peaches, strawberries and small fruits.

There will be a large amount of cherry acreage coming into bearing every year for the next few years, not only in Oceana county but in several other western Michigan counties that have planted out hundreds of thousands of cherry trees.

Fruit spur formation was good on most fruits last year except in orchards that were on light soil and in orchards that were poorly cared for. The carryover of insects would be much heavier than the possible carryover of bacterial and fungous diseases. While a few orchards are being abandoned as unprofitable, I think that most orchards are being given better care than ever before.—*C. H. Hemstreet.*

Van Buren County. Our present outlook is very favorable for a nice crop of clean fruit, our growers are right up to schedule with spraying and fertilising, orchards are generally in good condition due to favorable weather and carefully following outline of our State college, spraying on dormant trees is about done at this date. Fruit growers are not much worried over arsenical residue as we have our packing plant equipped with the latest machinery. While all fruit buds are prominent, we very seldom harvest two crops of Bartletts in succession. Rain is needed, although our growers inform us that trees are not suffering. A few new farmers are coming in due probably to the unemployment situation, although more and more folks are starting to realize that it takes capital to operate a farm. We believe that under present conditions we will pack some real fine fruit this year.—*C. Bus.*

ILLINOIS

Johnson County. Apples, peaches and pears are in fine shape. The peaches will be in full bloom by April 11 and the apples are beginning to show pink and will be in bloom within the next 10 days. There are very few small fruits in the county but what there are came through in fine shape.

I do not believe that the drought this past summer caused any material damage to the fruit spurs or to fruit trees otherwise.

It looks as though the insect carryover would be large this year as there were mighty few killed from cold weather this past winter. There is a possibility of a normal amount of diseases such as blight and scab but there will possibly be less leaf curl because of very small amount of it this past summer.

For the most part the growers in this county took good care of their orchards, even fertilizing and cultivating their peach orchards when they had no crop. However, there will be a few orchards which are neglected now and will not be reclaimed.—*L. J. Fultz.*

Marion County. The fruit supra on trees last summer apparently were not affected by drought as they show indications of a good bloom on practically all varieties of fruit. It was the opinion of some that the peach buds were weakened by the drought, but by the looks of the buds now it seems that this is not the case, and peach trees last fall looked healthier than normal.

Blight was moderate last year in apples and pears, not as serious as some years but more serious than others. We look for a rather heavy infestation of blight this year. Scale was bad last year and it will depend upon weather conditions. So far, indications are that scab will not be serious. Peach leaf curl was not serious last year. Most of the orchards were sprayed last fall and it will not be serious in them but some of the orchards that were not sprayed until spring will be quite suspectible to curl.

The carryover of codling moth is heavy and scale and codling moth will probably be serious this year. Oriental fruit moth will probably not be particularly serious this year. The ground water supply is sufficient but very little reserve. Only a small increase in acreage will come into bearing this year. Not enough to make up for the abandonment of unprofitable orchards. Very few orchardists failed to give cultivation and sprays to their orchards last year where the orchards were in good shape. —*F. J. Blackburn.*

WISCONSIN

Door County. Our cherry trees, due to the mild winter, have gone through with very little, if any, damage to the fruit spurs. If we get a break in the weather from now on until blossom and setting time, we should have a very good crop. Last summer's drought, of course, was of some injury to our trees, but late examination shows that even the lower branches in some areas which died out last summer have plumped up in good shape and we have hopes that the injury is not permanent, at least to any great degree. Certain diseases of the cherry tree thrive during warm winters. We would not be surprised to see an average amount of diseases this year to the cherry trees, but the growers here carry out a comprehensive spray program and generally control whatever fruit diseases show up in good shape. The ground water supply in the orchards is not up to standard. We had one snowstorm during the winter and while it is true that most of this moisture is now in the ground, due to the fact that the ground was not frozen at the time the snow fell, at the same time we could stand a great deal more rain or snow.

There will be considerable new acreage coming into bearing this spring. We do not have much of a problem here as to abandoned orchards. New plants are being put in this spring.—*B. F. Rusy.*

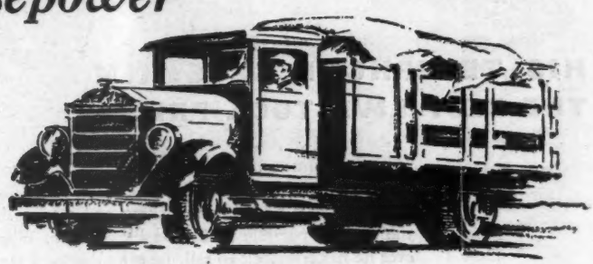
Manitowoc County. The outlook for a bumper apple crop this year is excellent. Last summer's drought did not injure the fruit spurs. A late frost in May last year caused a very light crop which means that all of the trees have built up a good supply of fruit spurs which are going to blossom this year.

The carryover of diseases and insects due to our very mild winter is, however, going to be very large also. The water supply is good; no new acreage will come into bearing. Farmers in some cases are abandoning their orchards as unprofitable. Others are just starting to get their orchards in shape to again make them productive.—*H. J. Weavers.*

Sheboygan County. Our fruit crop was quite good last year for those who took care of their orchards. Quite a number had a small crop due to a late frost. There seems to be a good set of fruit buds, and in view of the comparatively light crop last year on account of the late frost, there should be plenty of blossoms this spring.

So far, comparatively few are spraying their fruit trees regularly, which means that there will be plenty of scab carried over. I noticed some plant lice eggs, and no doubt there will be plenty of codling moth worms on hand. Ground water supply is still deficient, but we have had a good rain and a good snow recently.

I think our apple trees are dying out faster



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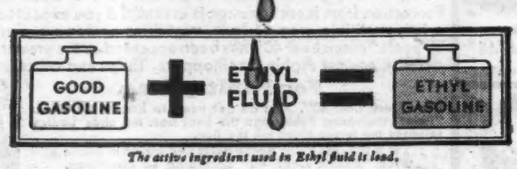

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than they are being replanted at the present time. According to State reports, there are over 95,000 bearing trees in this county.

I am attempting to get spray rings organized but due to financial conditions it is rather a hard task right now. I have one group all ready to go and hope to have one or two more. We have a few men who do commercial spraying.—*S. S. Mathisen.*

Waukesha County. Last year we had a very dry spell in this section but from indications of the trees this spring the fruit buds seem to be pretty well formed and we are looking for a fairly good blossom crop at least. However, the water supply is rather low and unless we get rain we will probably have a poor crop. No doubt there will be quite a carry-over of scab and insects due to the open winter. We were not bothered so much with fire blight in this section last year but there was a little outbreak here and there.

There is a small increase of acreage of orchard this year but nothing great. No orchards are being abandoned as unprofitable where they have tried to spray and tried to prune the orchards so they would produce something. But there are a number of farmers who do not spray and do not take care of their orchards but are leaving them grow to wood.

The spray ring members, which consist of about 140, took very good care of their orchards last year but the people outside of the spray ring were not so particular.—*J. F. Thomas.*

TENNESSEE

Anderson County. We had no peach crop to speak of last year due to freeze and therefore the disease carryover is very small. Insect infestation last year on the fruit we had was very light. It was very heavy two years ago, more particularly curculio and oriental fruit moth. Curl has never been serious during our eight years in the business.

The ground water supply is good this spring. No new acreage will be set, but will suffer some loss of trees due to last year's neglect. Possibly 30 to 50 per cent of the orchards of the county were not cared for last year after the loss of fruit, but with a heavy set at this time most all the better orchards will have from fair to good care, with less attention to cultivation than to sprays.

The drought did not injure the fruit set for this spring and we have a very heavy set at this time with no loss from winter injury. —*I. T. Elrod.*

Bradley County. Fruit growing interest is confined to peaches, strawberries and apples. Peach growing is confined to about 1000 acres. During the last five years about 400 acres of peaches have been abandoned. The 1000 acres now under cultivation are in fine condition. Curculio under complete control. Prospect for crop fine. Shuck sprays going on 15th instant.

Strawberry crop this year will be around 15 cars, which is about one-half of a normal tonnage. The stands were injured last year by drought and in some instances completely destroyed. The setting this spring will about replace the acreage destroyed by drought last year.

The apple acreage in the county will not exceed 30 acres. Spur growth was seriously injured by drought last year. Insects and disease in these orchards are well under control.

Ground moisture is lower than usual but recent rains have given a season in the ground that should insure a fair crop.

Davidson County. The prospects are excellent for all trees and small fruits. The acreage of bearing trees of apples, peaches and pears has been practically stationary in this county for the last four or five years. Grapes have shown a slight increase; strawberries a decided decrease, with a slight increase for blackberries.

Spurs are well developed, certainly show in the case of peaches. I do not think last summer's drought has affected this year's crops in the case of tree fruits. It did affect strawberries and some of the small fruit. As to possible disease and insect enemies, undoubtedly the mild winter has been favorable to insect carryover. As to the present ground water supply, I will say that it is still deficient. What rains have fallen since the first of this year have been gentle and practically all has gone into the ground rather than run off.

Our orchardists produce fruit solely for the home market or Nashville market.

I do not think the growers have neglected either cultivating or spraying more than heretofore.—*G. G. Summers.*

Knox County. The condition of fruits is good, with the exception of strawberries, the latter having been seriously damaged by the drought. The condition of fruit spurs appears to be good. The ground water supply is sufficient. Only about half the fruit plantings in this county are given fairly good culture.—*F. S. Chance.*

Lawrence County. Fruit spurs about normal. No indication of damage from last year's dry spell. The carryover of insects and diseases is about as usual. No apparent deficiency of ground water. Growers gave fairly good culture to their orchards last season.—*O. Hunerwadel.*

Loudon County. Fruit spurs are plentiful. Disease carryover about normal, but lots of spraying has been done this season.

The water supply has been short all through the winter and late rains have pretty well supplied the water. No new acreage will come into bearing to speak of. Several orchards have been discarded. Most of the orchards were well cared for last season.

There are better prospects so far for plenty of fruit in this section than has been the case for several years. Most of the owners are fertilizing, pruning and spraying in earnest.—*H. P. Bird.*

Rhea County. Peach and apple bloom is heavy with good prospects unless late cold causes heavy drop. Acreage is about normal, with no new trees coming into bearing. Cultivation and spraying are receiving more attention than in the past two or three years.

The strawberry acreage is short and rows thin but plants are thrifty and should come on with a good crop, though small loading. Water supply has been good all winter and more moisture is in the ground now than a year ago.—*H. J. Kime.*

KENTUCKY

Graves County. We have approximately 800 acres of peaches, 300 acres of apples, and 250 acres of Aroma strawberries; also small acreage of raspberries and dewberries.

While the greater portion of the above apple acreage is less than 10 years old, the trees of bearing age give promise of a fair crop this year judging from the present outlook. Most growers have scale under control and are applying the pink spray as a measure in scab control. The past season's drought possibly cut down the growth and some of the trees died but the winter and recent rains have put a fair supply of moisture in the soil.

Peaches are in full bloom and most orchards present a promising picture. Some orchards, especially the trees on the lower lands where winter injury was rather severe, are blooming very sparsely. Peach orchards that were not cultivated last year made little growth. Growers are going to make a special effort to deliver a knockout blow to the curculio and his future generations this season, for many of them are still smarting under the losses they suffered from late broods the season of 1929. With no peaches in this section in 1930, the growers are expecting a light infestation.

The strawberry fields were hit hard by the past season's drought. A fair acreage was set this season.—*G. C. Routt.*

Jackson County. Prospects good for all kinds of fruit. Fruit spurs damaged a small percentage. Spraying and fertilization neglected to some extent due to two years of failure. Ground water supply is normal now and with normal rainfall and no killing frost after April 13, this county will have enough fruits of all kinds.—*W. R. Reynolds.*

Ohio County. Regarding tree fruit spurs, I can positively state that last summer's drought did not injure their formation. My observation is that carryover of diseases as applied to scab, etc., is practically normal. It appears that the carryover of insects is subnormal. The ground water supply is still deficient but with the last rains has been greatly increased. No considerable acreage of tree fruits will come into bearing this spring. We will have 200 acres of strawberries to come into bearing in 1932. The orchardists gave their trees fairly good culture and spraying last season.—*M. P. Nichols.*

THE SOUTHERN STATES

ALABAMA

Blount County. Weather conditions have been very favorable for a splendid crop this season. Many farmers who have never sprayed before are spraying their trees this year.—*A. H. Barnett.*

Clay County. Drought damage light if any at all. Very heavy crop of blossoms on tree fruits and berries. No frost damage as yet.—*F. M. White.*

Elmore County. So far as I am able to tell, this county's fruit crop is in fair shape. Cold seems to hurt us very little.—*H. M. Lewis.*

Jackson County. Prospects are good for fruit crop here this year. No drought damage has been noticed so far. A few new home orchards are coming in this year.—*M. T. Gowder.*

Jefferson County. The prospect for a fruit crop is the best in many years. It is now probably out of danger of winter killing. While we do not have many good commercial orchards, fruit growing is on the increase and the most of our orchards are young. Better care has been given orchards during the past season than ever before, both as to cultural methods and spraying. Peaches constitute the bulk of our local fruit, the most of these being early peaches. Pears and apples suffer from blight so badly that they are rarely ever profitable. Our farmers are growing large quantities of dewberries, the Lucretia and Young varieties. These have proved more profitable than tree fruit growing.

As to diseases we have no trouble in controlling them when proper spraying is done. Late rains last fall came in time to send trees into winter in good condition. The outlook for a fine fruit crop for our county was never better.—*J. L. Liles.*

Mobile County. All fruit is in good shape Plenty of moisture and having had a winter without any protracted warm spells, every kind of fruit is blossoming abundantly and gives promise of heavy crops.—*W. C. Vail.*

LOUISIANA

St. Tammany County. We are putting cars of berries on the market each day and will as long as the season lasts. We will have about seven cars of satsuma oranges for sale the last of October or the first of November. We have 22 commercial pear orchards and will have pears by the carload for sale. The grapes are extra good and will be used for home consumption of grape juice and for nearby bunch grape trade. Pecans are marketed in truckloads in New Orleans and shipped to the National exchange.—*O. G. Price.*

ARKANSAS

Benton County. Fruit spurs O. K. Drought did not affect their formation. Our bloom is fine. As far as I can tell at present, the carryover of diseases this year is no worse than usual. The soil water supply is about normal, probably a little below. There will be very little new acreage, if any, coming into bearing this year. However, the strawberries are below normal. A number of unprofitable orchards have been abandoned or pulled. Orchards received average care last year.—*L. Broadhurst.*

Boone County. Peaches about 50 per cent killed but more than enough left for a good crop. Apples in fine condition. As good a bud crop as we have had in several years. Grapes good. Very little strawberries and other small fruits grown in this county.

Plenty of soil moisture at present. The drought last year did not seem to injure buds badly. The carryover of insects promises to be great.—*P. R. Corley.*

Crawford County. Peaches and strawberries are the fruit crops grown in this county. The bud crop is above average. A number of old orchards are being abandoned. Most of the progressive growers took good care of their orchards. No new orchards are being established.

The carryover of pests, such as curl, brown rot and worms, is expected to be light.

The strawberry crop is short according to acreage and stand, but the individual plants have a good crop.—*C. J. Byrd.*

Drew County. The principal fruit crop in our county is peaches. There appears to be some resultant damages from last summer's drought on these trees. The growth is not up to the usual standard and the crop is going to be lighter than usual. However, our peach crop is not sold in carload quantities but trucked out into the outlying territories. I have observed but very little peach leaf curl so far this season. We are expecting about the usual amount of damages from plum curculio.

I am of the opinion that the ground water is insufficient as we are still short seven inches of a normal rainfall since January 1. We will not have any new acreage that will come into bearing this spring. Most of the growers took fair care of their orchards last year and will reap the benefits this year.—*J. E. Terry.*

Franklin County. Fruit of all kinds is in fine shape. Less than five per cent of the peaches were killed by the recent cold snap. Apples, grapes and strawberries were not damaged. Disease carryover will be about the same as in previous years. Fruit spur development was not affected by the drought last summer. The ground water supply is adequate due to heavy winter rainfall.

Many growers let nature take its course in regard to spraying and cultivating their orchards; however, many gave their orchards close attention and kept them in good shape in spite of the fact that last year was a bad year on fruit men. Very few orchards will come into bearing this year as few new orchards have been planted in recent years.—*J. V. Highsill.*

Garland County. The drought last year did not have any effect on the peaches, as we have a very heavy blooming this spring.

Apples, pears and plums have evidently matured fruit spurs, for they are blooming now although most of the fruit has been killed in this immediate section.

The soil moisture content is good now on account of the frequent rains this spring.

The small fruits were badly damaged by the drought and the berries are not more than 25 per cent of normal in stand.

Disease and insect carryover is about normal but farmers are going on with the sprays if any fruit remains but will likely not spray if too great a percentage of the fruit is killed now or drops later. The late freezes are causing farmers to become discouraged in this section and causing them to neglect trees unless a fruit crop is in sight.—*W. E. Laughlin.*

Searcy County. Orchards in this county did not suffer from the drought as much as in some other localities, especially where they were cared for. Where care was given, the fruit spurs are in good shape. The winter has been ideal and the spring thus far is very favorable. The bloom is fine and weather ideal for pollination now. Most trees are now in full bloom.

Peaches are safe as well as other tree fruits and all berries. Grapes are in good shape.

Blight was bad in many orchards early last year but was checked by the dry weather. Because of many slighting the sprays last year, it is probable the carryover of diseases will be large. And because of the mild winter it is to be expected that many of the insect pests have carried over.

The rains have not been as much as usual the past winter but there seems to be plenty of water in the soil at present.

A number of orchards have been abandoned as unprofitable. A few will come in to bearing this year for the first time. Most of the orchards in the county are not cared for in the best manner.—*C. C. Lockwood.*

Sebastian County. A fine set of apple buds but spraying has been neglected. Good prospects for peaches at this time. Pears badly killed by last cold spell in March. Cherries fair crop and some varieties of plums a good crop. Grapes all right but pruning has been neglected. Strawberries badly injured by the drought last fall, about 50 per cent. I look for lots of insects and diseases to appear. Have put forth every effort to have spraying properly carried on but find many that will not spray.—*J. H. Goyer.*

Sevier County. Apples are a minor crop but the bloom is good. The carryover of diseases, I believe, is relatively small. The dormant spray for scale was omitted in a majority of cases because of scarcity of money.

The peach bloom was heavy but cold snaps have caused a drop of about 50 per cent of the bloom (peaches are now about the size of a small pea). I am afraid that scale will get a new start in most orchards but I think that most other insects and diseases will be fairly well controlled.

Strawberries will soon go on the market with a very short crop. The stand was cut by the dry weather to about 50 per cent or less.

Any increase in acreage will be due to small home orchards for the most part. The culture and spraying last season were fairly good. The supply of ground water is somewhat below normal but not bad.

There are only a few blackberry patches and vineyards in the county but they will produce a normal crop. Perhaps the grapes will be cut somewhat because of short growth.—*C. U. Robinson.*

TEXAS

Cotun County. Considerable fruit is grown here, especially peaches, plums, grapes and pears. People are going back to orchards more now than they have for several years. We are very fortunate in not having many of the diseases and insects that are common in many fruit growing areas. However, we are bothered considerably with brown rot and curculio.—*J. P. McCullough.*

Comanche County. All but blackberries killed by freeze.—*J. A. Barton.*

Denton County. The freeze got our major fruit crops, such as peaches, plums, and pears. We have but few apples and it now looks as if they are O. K. The berries are not hurt. The grapes suffered considerably from the summer drought, causing most of the fruit spurs to die back.

I do not think we have an unusually heavy carryover of insects and diseases. Besides, the growers are preparing to fight all these things more than ever before. Much spraying has already been done and more will be done as the season develops. Practically all orchards were pruned properly and many new ones for home supply have been set out, not any as commercial propositions, however.—*C. C. Morris.*

Fannin County. Late freeze killed 75 to 90 per cent of peaches. Borers, scale, curculio and rot common in peaches and plums. A few spray.—*E. E. Carswell.*

Franklin County. Elberta peach crop for 1931, 75 per cent frost killed. Early peach crop 15 per cent frost killed. Apple crop (small acreage) not damaged by frost. Pear and plum crop 95 per cent frost killed. New orchards very scarce. Old orchards are being abandoned yearly. Few orchards were affected by 1930 drought. Nematode and San Jose scale are our worst orchard enemies. They are increasing. Orchards of this county have not received proper attention for several years.—*V. O. Teddlie.*

Smith County. Fruit spurs excellent as we had the heaviest bloom in years. Moisture good now and during the winter. Very little leaf curl but considerable San Jose scale. Two hundred acres coming into bearing this spring. No orchards being abandoned except dying out of farm orchards, but considerable replanting of them. All commercial orchards sprayed and cultivated. New acreage went in this spring, mostly in Fair's Beauty Peach.—*E. Gentry.*

Upshur County. Drought probably cut growth of fruit spurs 15 per cent. Water supply is now adequate. Only a few trees will come into bearing. Most of the orchards are old and neglected. However, I have a few demonstrators who have put out new orchards the past winter, something over 2000 trees, mostly peach and apple and several hundred pecans. Strawberries will be short on account of drought last summer. Some grapes are raised.—*W. M. Burkes.*

Van Zandt County. Apples: Very few apples grown in this county. About 20 per cent new setting this season. Condition fair. Pears: Severely injured by late unusual freeze. Grapes: Excellent condition, no injury, no insects; will spray for rot. Strawberries: Drought of last year cut crop and plants 50 per cent, late freeze an additional 25 per cent. Very fair quality. Blackberries: Excellent growing condition, pruning neglected. Peaches: Trees in excellent growing condition. More pruning and spraying than ever. Late freeze cut crop to 25 per cent.

The drought did not curtail the formation of fruit spurs. Blight and scab no worse than last year. Peach curl showing up early and unusually bad. Ground water supply sufficient. Ten per cent of peach acreage is bearing first crop. Many old orchards being abandoned as unprofitable.—*W. D. Seals.*

OKLAHOMA

Carter County. Spring freeze killed all peaches, plums and pears. We grow very few apples. Grapes and berries are O. K.—*O. L. Putnam.*

Craig County. Apples in good condition, not seriously injured by drought. Peaches, plums and pears practically all killed by recent cold. Grapes in good condition. Practically no change in acreage in any fruits. Strawberries injured by drought; stand poor. Few new patches going out this spring.

We sprayed more last year than we will this. See no reason for any decrease in insects or diseases. Not doing as much spraying this spring may be cause for increase.

We do not have sufficient moisture. A short dry spell can hurt us seriously. Orchards are being cultivated.—*E. M. Sledge.*

Hughes County. We will have quite a lot of vegetables to ship out this year but very little fruit because of a late frost.—*L. J. McMakin.*

Delaware County. Fruit spurs on most all trees are very profuse in number. I do not believe that there is more than a normal carryover of diseases such as blight, scab, curl, etc.; very likely considerably less than a year ago. We have had a very light winter and it is possible that insect carryover will be larger.

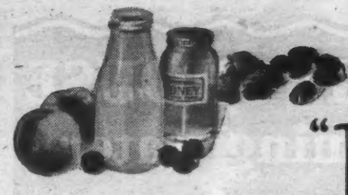
Top soil moisture is in good condition but we have never had a sufficient supply of moisture since the drought last fall to thoroughly soak the subsoil. However, with anything like regularity of seasonal rains, our crops should not suffer.

The new acreage coming into bearing is very small and a few old orchards are being abandoned from year to year throughout this territory.—*E. A. Kissick.*

Harmon County. I do not think the drought seriously hurt fruit trees here. Many of the old and unthrifty trees died but others set spores and buds which were beginning to swell or to bloom when the severe cold wave came March 27. The trees were leafing out and the peaches and plums were in full bloom. The thermometer went to six above and all fruit was killed and the top limbs of most trees and in some instances entire trees were killed, except probably the lower stem. Grapes, berries and possibly cherries are safe.—*T. M. Marks.*

Mayes County. We will probably have one-fourth crop of peaches if we do not have more freezes. But few pear trees in the county and they all have the fire blight. Grapes are all looking good. Strawberries were nearly all killed by last year's drought. Some few dewberries and blackberries are still alive and will make a crop. Disease seems to be on the increase. Plenty of soil and subsoil moisture to begin the year. No new orchards coming into bearing and the old ones are being abandoned as too costly to keep up.—*E. B. Hildebrand.*

Oklahoma County. Apples: Well set with fruit spurs; 20 per cent damage by freeze March 28. Trees generally poorly cared for



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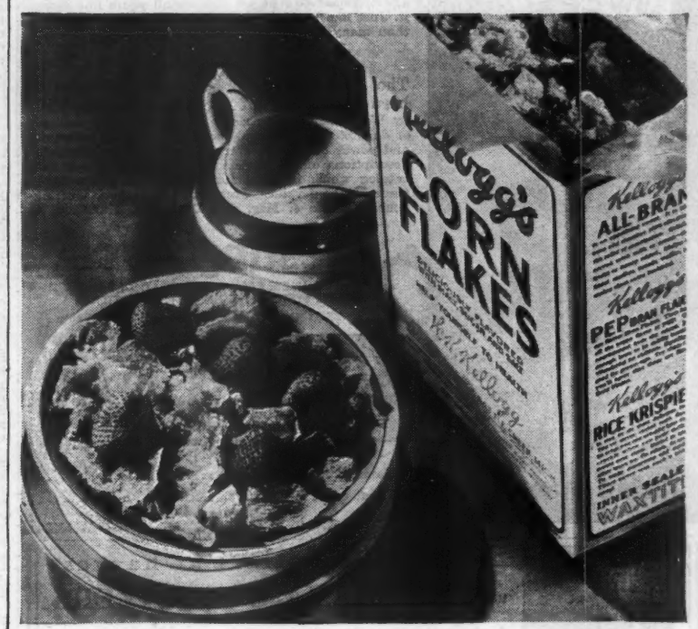

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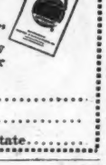

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last year. Indications point to heavy infestation of insects. No new acreage.

Peaches: Total loss from freeze. There was a 50 per cent loss of trees from freeze the previous year. No new acreage and much abandonment of unprofitable acreage.

Plums: Sixty-five per cent loss from freeze. 50 per cent set of fruit buds last season.

Berries: Generally well cared for last season. Most fields in good condition. Slight damage from recent freeze.

There is an abundance of moisture to give the crops a good sendoff.—*A. T. Burge.*

Payne County. The severe freeze in March killed all peaches, pears, apricots and some plums and cherries. The dry weather in the summer of 1930 did some damage to fruit spurs. The ground water supply at present is abundant. Peach orchards here are being dug up.—*J. R. Waldby.*

Pottawatomie County. Peaches, plums, apricots and pears almost completely wiped out by the freeze of 10 days ago.

Apples, cherries, grapes and berries of all kinds continue to be a fair prospect for a fruit crop. Sixty days of drought last year did some injury to the apple buds and no doubt reduced the extent of crop that will be produced this year.

It is our opinion that the carryover of diseases, such as blight, scab, etc., will be fully normal or slightly above. Moisture conditions at this time are decidedly better than a year ago on this date and will compare favorably with the average for this section. There is very little new interest in fruit growing in this section of the country. Old orchards are declining very generally each year.—*J. Lawrence.*

WEST CENTRAL STATES

NEBRASKA

Douglass County. All fruits about normal with the exception of raspberries, which were hurt by the drought. Subsoil moisture content low.—*G. E. Scheidt.*

Madison County. Apparently all fruits will be normal. We had no freezes that should cause damages. Drought injury can be eliminated. Moisture supply is a little under normal. There are no commercial plantings. Spraying is increasing each year. Local fruit crop covering both trees and small fruits should be normal.—*R. A. Stewart.*

MISSOURI

Barry County. Apples, grapes and strawberries are the only crops of commercial importance to our county. Evidently last year's drought did not injure the fruit spurs or formation of fruit buds as our bloom is beginning to start and promises to be a good one.

There is a large carryover of codling moth and conditions seem to have been favorable for a carryover of other diseases. However, most all the orchards have received a dormant and cluster bud spray. We have approximately 50,000 trees between the ages of five and 13 years. Many of these trees are coming into bearing this year and promise to bear a good crop the first year. A few old trees have been cut down because of being unprofitable. A majority of the growers took good care of their orchards last summer.

Grapes are in good shape. Most of the vineyards have been cultivated and buds are beginning to break at this time. The flea beetle is also very active.

The picking acreage of strawberries will be small in comparison with the last few years but the fields are in average to good condition, except where an attempt is made to hold the plants too long. A little more than the average planting is being done this year.—*J. O. Martin.*

Carroll County. The prospects for a fruit crop are very favorable. Everything points to a wonderful bloom. Diseases are probably worse because of lack of spraying, which was due to a bad fire blight which took last year's crop. Farmers simply quit spraying at that time.

The water supply is deficient due to the fact that we have had practically no rainfall for a year. The spring rains have only wet the ground about six inches.

A few orchards have been abandoned, but these have not been profitable for some time. Farmers who have any acreage seem to be taking better care of it than normally. This applies particularly to pruning and dormant spraying.—*V. B. Sheldon.*

Howell County. In my opinion last summer's drought did not affect fruit bud formation of peaches but did injure the fruit spurs to a considerable extent. The exact amount of the injury is unknown. The carryover of scab and curl is probably as large as usual, while the insect carryover has been reduced in the particular case of plum curculio,

The ground water supply is not deficient since we have had abundant rainfall this winter. There is practically no new acreage coming into bearing this spring.—*C. E. Rohde.*

Lafayette County. Fruit spurs good. Last summer's drought did not injuriously affect their formation. The carryover of diseases is about as usual after a dry year. The ground water supply is slightly deficient.—*R. I. Coplen.*

Newton County. Fruit prospects for southwest Missouri are the best that they have been for several years. Apples, peaches, grapes and strawberries are in excellent condition. Fruit spurs do not seem to have been seriously affected by last summer's drought and in orchards where commercial fertilizer has been used they have made good growth.

Due to the slow growth caused by last year's drought, I do not look for as much trouble with blight this year as previously. Scab and blotch will probably be about the same as before. Insects were probably not seriously injured by our open winter and we can expect trouble with them.

Ground water supply is deficient at this time and unless we have plenty of rainfall throughout the season we can expect serious damage to all fruit. There will be very little difference in fruit acreage this year in this county. A few small apple orchards will come into bearing. I do not know of any acreage that will be abandoned. I do not think that there was any let-down in either culture or spraying last season.

Strawberry acreage will be slightly smaller than last year; shipment probably slightly less.—*J. W. Stratton.*

MINNESOTA

Crow Wing County. We raise a small amount of raspberries and strawberries. Drought hurt the plants considerable last year and the amount of fruit raised was very limited. We need more moisture. Insects and diseases are not bad. About the same amount of acreage will be put in as before.—*E. G. Roth.*

Hennepin County. This county grows plums, apples, strawberries, raspberries, currants and gooseberries, as well as some grapes, and stands well at the head of all the counties in the State with respect to its fruit growing.

So far as I have examined the tree fruits, the fruit spurs seem to be coming through the winter in good shape with good plump blossom buds.

Raspberries, our largest single small fruit crop, are coming through this spring with a great deal of winter killing. Strawberries show a great deal of winter damage. Currants and gooseberries seem to be coming through all right.—*K. A. Kirkpatrick.*

KANSAS

Cowley County. Apples: Unless something serious happens, the Arkansas Valley apple crop will be a bumper. There is a heavy set of bloom. Very few buds show damage by late freeze.

Peaches: The peach crop here is normally small. This year the crop will be very limited. Only a few got by the freeze.

Pears: Very limited crop here. Early pears much damaged by freeze.

Grapes: No apparent damage to grapes. It still remains to be seen what effect the hot, dry summer had.

Fruit spurs in several orchards are not large and vigorous. Buds in such cases are small and undersize. Terminal growth was cut back to less than half of preceding years.

Rather early to tell about disease carryover. Our orchardists are going ahead with blotch sprays, etc. This valley has been particularly well supplied with codling moth and there is no reason to believe but that there will be an abundance of them this year. We have had sufficient rain to produce abundant ground water supply. There will be a slight increase of apple acreage coming into bearing this year. Most of our orchardists gave their orchards good care last year. Several quit spraying last spring after the apples dropped.—*E. H. Aicher.*

Doniphan County. We never had better prospects than at the present time, especially for apples, peaches, pears and apricots. Grapes, strawberries and other small fruit have not developed enough to determine prospects at this time. I should say that at present the condition of the fruit would average at least 95 per cent of the normal crop.

Fruit spurs have developed satisfactorily. I do not believe that last summer's drought affected their development seriously in this county. While blotch, scab and curl were not serious last year, yet there is no doubt that under favorable conditions there is danger of serious trouble with any of these diseases this season. The same is true of insect pests.—*C. E. Lyness.*

Atchison County. We have one of the finest prospects for fruit of all kinds in northeast Kansas that we have ever had. Apricots are in full bloom, peaches are rapidly approaching that stage, apples and pears will be showing pink in another week or 10 days. There is no reason why grapes, strawberries and other small fruits should not be the same.

All the trees are showing plenty of fruit spurs except the off varieties, which bear shy one year and heavy the next, and this happens to be the shy year. Last summer's drought may have some effect on fruit spurs in old trees but there is no bad effect in the young ones and generally speaking the old trees are not affected.

There is the usual amount of blight and scab. Ground water supply may be a little bit short as we had a dry winter but we are getting some nice rains at this time. There will not be any great amount of young trees coming into bearing this spring in this county. Spraying and cultivation was carried along nicely last year even though weather conditions were adverse. Fertilization is going ahead on the orchards this spring and with only one or two cases have the growers been unable to finance the purchasing of this fertilizer. The proposition of spray material will be more of a hand to mouth method this year than ever before as there is a general tightening up of money with the orchard men the same as anything else.—*J. M. Goodwin.*

Wyandotte County. This year we have a better bud set than we have had for several years. There may probably be some damage from fire blight but very little is expected from scab or other diseases. The ground water supply is probably not as high as we would like to see it but still there is a large amount of water in the soil, due to recent rainfall. Practically no new acreage will come into bearing this year and only one orchard is being abandoned as unprofitable. The growers did not give their orchards the attention last year due to light set of fruit, especially in regard to the spray program. We have one of the best outlooks for a bumper crop of apricots, peaches, cherries, grapes and apples we have had in many a year.—*T. Russell Reitz.*

IOWA

Clayton County. The dry year was more or less damaging to fruit, especially to the smaller fruits, such as strawberries and grapes. Apples, plums and pears in this section were not damaged much in that respect. It has been a very mild and open winter. If the spring proves to be rather early, and the fruit comes along all right and we do not have a hard freeze at the wrong time, I believe we should have a normal setting of fruit.

There is the usual amount and carryover of diseases, many having a little better hold on some of the trees owing to the dry season. We have had very little rain and snow the

past winter and so far this spring. The subsoil is very dry and we will need to have the normal rainfall or more in order to supply sufficient moisture for this year's crop.—*Roy Combs.*

Keokuk County. It does not seem that the drought injured the fruit spurs very much. All indications show that we will have a huge peach and apple crop this fall. I would presume that the disease will be a normal carryover. Orchards are not given enough attention in the county in the way of spraying and pruning.—*L. B. Zahn.*

Madison County. Fruit spurs O. K., may not be as many as usual. There may probably be more carryover of diseases and insects. The ground water supply is somewhat deficient, though local rains are helping.—*C. I. Redfern.*

Van Buren County. Fruit conditions are better than average in the locality. We are having excellent supplies of moisture. Snows were fine to hold back buds.—*A. J. Secor.*

MOUNTAIN STATES

COLORADO

Delta County. All fruit has wintered very well in this section. We had a short crop last season and have an unusually heavy set of fruit spurs for this year's crop. Last season's short crop was due to winter and spring freezes and not to any drought. I do not believe the disease question will be different than usual.

Prospects are bright for a good crop in this section at the present time, though frost danger is not yet past. We have, of course, sufficient water to date but there was a light snowfall in the hills and unless some further moisture falls we may be very short of water. However, this section has never had a crop failure on account of moisture conditions.

There will be little change in acreage, although we have a few more peach trees coming into bearing and the apple industry is just about holding its own. We will also have a few orchards of apricots starting to bear this year but the total shipments would not be over 25 cars. Orchards in general are in very good shape.—*R. H. Tucker.*

Otero County. Fruit prospects are good here. Buds have been backward because of cold nights. Moisture has seldom been better. Some new cherry trees are going out this spring. There are few replacements of apples so the number of trees is growing smaller.—*R. E. Williams.*

UTAH

Davis County. As a whole, our fruit appears to be normal at this writing. There was a slight winter killing here and there where there was not sufficient irrigation last fall. There is some increase in fruit tree planting this year, especially cherries, apricots and peaches. There has been an unusual shortage of precipitation this past winter and if we do not get more than a normal amount of rainfall in the next three months, irrigation water will be lessened and will result in some damage to fruit and trees. Considering all conditions at present, I would say that things are about normal in this county as to the fruit prospect.—*D. Nichols.*

Weber County. All fruit has come through the winter in normal condition, except cherries, which have suffered some frost injury. We had little, if any, drought last season. The carryover of pests seems to be about normal, though it is somewhat early to decide definitely. Water for irrigation will be short this season unless heavy rains occur on the watersheds this summer. Culture and spraying were carried out unusually well in 1930.—*A. L. Christiansen.*

ARIZONA

Pinal County. We have a little over 1300 acres of Kadota figs in this valley, most of which will be in their fourth year during 1931. They bore quite heavily last year and are expected to do better next year.—*K. K. Heness.*

NEW MEXICO

Bernalillo County. We are extremely fortunate thus far in that we have escaped any serious freeze and all fruits, which includes apples, peaches, grapes and some small fruits, have escaped injury.

We are in an irrigated district and are not subject to drought. Our diseases in this country confine themselves to insect pest damage. There is very little, if any, new acreage which will go into bearing this year. In fact, I think that on the whole from present indications we will have as near a normal crop in this section as we have had in several years.—*J. G. Koogler.*

Dona Ana County. At the present writing the commercial apple and pear crop is safe. The spurs were strong and indications are that a large percentage of the fruit will set. Only serious pest is the codling moth. As the small crop last year was somewhat neglected, the infestation will doubtless be large this year. The supply of irrigation water is abundant. The peach crop was seriously injured by an early frost and there will probably be no carlot shipments.—*R. C. Stockdale.*

Rio Arriba County. Fruit spurs in good condition. Not much drought injury. No scab, no curl, and light carryover of codling moth.—*F. A. Armijo.*

Santa Fe County. If we do not have severe frost within a month, the fruit crop will be above the average, that is, apples, pears, peaches, cherries and grapes.

In the northern part of the State the drought was not very serious, the worst trouble being hail storms which ruined the fruit crop in several districts. Concerning diseases, with the exception of the pear blight, there is no other disease to worry about. Orchard men sprayed as usual. I expect insect pests to be about the same as in the past years. The ground water supply is better than it has been for many years. Taking everything into consideration, orchards this year are in excellent condition.—*J. M. Ramirez.*

PACIFIC COAST STATES

CALIFORNIA

Colusa County. Will have about the usual production of peaches, pears, grapes, strawberries, prunes and plums.—*V. C. Bryant.*

Imperial County. The Thompson grape crop is estimated at about 75 per cent this season. The local grape crop suffered some damage from a March frost and from a large number of grape leaf hoppers. The grapefruit crop appears to vary in individual orchards, some having very heavy sets and some very light.—*F. G. Beyschlag.*

Kings County. Apricots: Fairly good set of fruit except in orchards that were not irrigated. Probably will have normal crop. Peaches: Good bloom and set of fruit. Will probably be some decrease in crop due to lack of moisture and pulling out of orchards. No new orchards coming in. Grapes: Probably considerably less production due to lack of care of vineyards, water shortage. Grape leaf hopper is very bad; cannot tell yet how serious it will be. Prunes and plums: Probably some less than normal.—*W. Sullivan.*

Madera County. The prospect is for a good crop of all varieties of peaches and grapes. There is practically no new acreage in this county which is coming into bearing at this time. The low prices for the past few years have checked the planting of peaches. The water level is continually going deeper and it is necessary to go deeper to reach the water. This, of course, increases the cost of pumping and production cost.—*G. Marchbank.*

Mendocino County. The pears have blossomed out and from all appearances a good set of fruit will result providing we have no frost to kill the crop. Prunes likewise have a full bloom. Grapes are just budding out and we cannot say what the crop prospects will be. Spring weather conditions have been ideal and should favorable weather prevail from now until the danger of frost is over, a big crop of all varieties will be had. Indications are for the largest crop that we have had in the last 10 years.

We have had about half of our normal rainfall and it is practically past the rainy season now. This will materially affect the production of marketable fruit on undesirable soil types. Much of the pears and prunes in this county are irrigated and consequently these two crops will not be greatly affected.—*C. S. Myszka.*

Napa County. There is a very good set of prunes and the danger of frost is quite largely over. The grape crop will perhaps be better than normal. The apples, pears and peaches will be normal. Strawberries and small fruits look good. Our growers have the disease situation quite well in hand and did not get discouraged because of the unfavorable price conditions last year and are carrying on very well. Looking at the situation in a general way, I would say that our county is in a very good condition at the present time.—*H. J. Baade.*

Orange County. Our main deciduous crop is walnuts. The buds are coming out rather unevenly, due to the comparatively warm winter, and the trees are blooming rather spottedly. Owing to the comparatively light crop of 1930, we would naturally expect a normal to heavy crop in 1931.

The Valencia orange crop this season will be larger than normal and the fruit sizes will be comparatively small, due to the greater number of fruits on the tree and to the hot weather and long dry spell during the summer and fall of 1930. All the citrus acreage, of course, is irrigated in this county but climatic condition has an important bearing on the sizing of the fruit.

Persimmon trees are displaying a vigorous growth of budwood and it appears that a normal crop will be set for the 1931 season.—*H. E. Wahlberg.*

Riverside County. All the deciduous fruit acreage in this county is grown under irrigation. During the past few years, owing to the heavy withdrawal of underground supplies of water through pumping, the water level has gradually decreased, resulting in still heavier pumping lifts of wells and higher cost for irrigation water.

The principal fruits grown in this county according to their importance, are apricots, canning peaches, almonds, prunes, cherries, and table peaches. The prune and almond acreages are confined almost entirely to the Banning district. Sweet cherries are grown for the local market, particularly Los Angeles and vicinity, and are produced in the foothill country around Beaumont.

Deciduous fruit planting, with the exception of a small acreage of cherries and table peaches, has been at a standstill for the past few years, owing to the rather low prices prevailing for these fruits. A considerable acreage of canning peaches and cots is owned by non-residents and owing to the poor returns many of these orchards have been neglected. I believe that resident owners have generally given their orchards as good care this past year as during previous years.

Owing to some frost damage in the Hemet district early in March, the apricot crop will be 20 to 25 per cent less than that of last season, which was one of the largest crops we have produced.

Canning peaches are gradually declining in acreage. Very frequently, owing to the light winters, much of the peach acreage is affected with what we call "delayed foliation," resulting in very low yields.—*M. M. Winslow.*

Sacramento County. Set of fruit is normal here. Very few neglected orchards and vineyards. However, approximately 250,000 grapevines and 300,000 deciduous fruit trees were taken up in the county this season.—*E. L. Stanley.*

Santa Rosa County. The crops of prunes, pears and apples are apparently setting well. Ground water supply in shallow wells is deficient but no great fear is anticipated that moisture will not be sufficient to mature crops. Pests, particularly bud mites of pears and thrips in pears and prunes, have caused some injury to the buds.—*H. A. Weinland.*

Stanislaus County. We have a good set of fruit this year. There will be in the neighborhood of between 50,000 and 60,000 tons of

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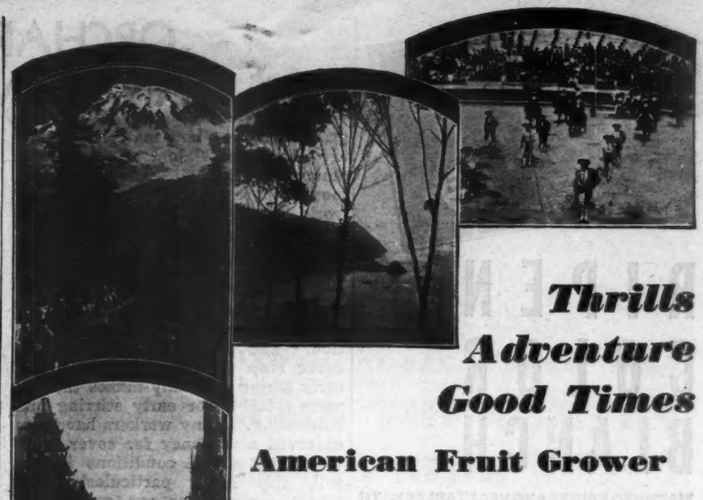

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ORCHARD SOIL MANAGEMENT

[From Page 7]

gration of the plant materials which are distributed and incorporated among the soil particles make the soil looser, more friable, and easier to work. Deep freezing of the soil is prevented, and this in turn may protect the tree roots.

The cover crop may hold the snow and thus increase the moisture supply. Erosion may be prevented through the soil covering and absorption. The drying influence of the cover crop through the winter and early spring generally makes the soil more suitable for early stirring and cultivation. Many workers have also observed a tendency for cover crops to correct alkali conditions in the soil, this being particularly true where cover crops are grown and plowed under for several years.

Over-wintering leguminous cover crops generally consist of winter vetch, crimson clover, red clover, mammoth clover, and sweet clover. Of these vetch is considered the best for regions subject to cold winters. Moreover, for Missouri and Kansas conditions it is proving to be the best over-wintering leguminous cover crop, particularly in the young orchard.

With these leguminous cover crops, which have the ability to take free nitrogen from the air and fix it through organisms in the nodules on the roots, the total soil nitrogen supply may be actually increased in some cases. It may be frequently found that the amount of nitrogen added through the legumes is greater than that used by the trees or lost through other sources. Soils deficient in nitrogen as well as humus usually receive, therefore, greater benefit from the growing of leguminous cover crops such as have been listed above.

Over-wintering non-leguminous crops commonly used in orchards consist of rye, wheat, and winter oats. These over-wintering cover crops have many of the same advantages listed for the leguminous crops, such, for example, as holding the snow, preventing erosion, conserving moisture when plowed under, and increasing the organic matter supply of the soil, making it a better place for the growth of plant roots. They lack, however, the important ability to store nitrogen in the soil and increase the nitrogen content of the soil.

Some of the cover crops killed in autumn and early winter consist of cowpeas, soybeans, field peas, oats, buckwheat, and dwarf Essex rape. These cover crops are valuable in that they may be grown in the late summer and early fall and when killed down by frost, cover the soil, prevent erosion and deep freezing, hold the snow, and when plowed under add large quantities of material to the soil and thus increase materially the organic matter supply.

As a rule good yields go hand in hand with the use of good cover crops and poor cover crops are associated with poor yields. In this connection the fact should be emphasized that fertilizers are often needed and often required to grow good cover crops which are in turn to be plowed into the soil. In general, the fertilizer required is a balanced one and complete in that it contains the proper ratio of nitrogen, phosphorus, and potassium needed for the best growth and development of the particular cover crop concerned. To maintain cover crop growth during the entire summer and fall it is necessary to have in the soil sufficient organic matter.

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AMERICAN FRUIT GROWER "WONDER TOUR"

[From Page 4]

capital (Spanish, Mexican, then American) of California and still has a quaint old world atmosphere that lingers from days of Spanish rule. These are only a few of the delightful sights that will be crammed within the short day we have for this enchanting bit of California.

The next stop on our itinerary is Los Angeles, one of the most interesting we have scheduled. To many, this magic city will prove the most thrilling stop of the entire tour. There are really too many things to do and see in Los Angeles. First of all there's Hollywood which everybody will surely want to see. We can take a regular tour which will include glimpses of some of the largest studios—Paramount, First National, Famous Players and others.

After Hollywood, the beaches beckon—Long Beach, Venice, Santa Monica, Ocean Park, with their fine surf bathing, their aquariums filled with strange sea life, their band concerts and colorful throngs.

Before we close these "high light" comments on the tour, there's one more stop included in the itinerary that can't be left out in describing unforgettable days. It is the day we have set aside for El Paso, Texas, and Juarez, Mexico.

El Paso is our oldest gateway to Old Mexico, a frontier city that once was a typically wild spot in the wild West, a rendezvous of cowboys, gamblers, two-gun men, Mexican vaqueros, and adventurers of all types. We have arranged for an extended automobile tour of the city in the morning, and for lunch we'll cross the line into Juarez, Mexico. Juarez is only six minutes from El Paso, yet the atmosphere, the Spanish architecture, the dark, loquacious people and the unusual customs are as foreign as if one were visiting Europe. In the market place are luscious tropical fruits, hand-made pottery, odd woven baskets, beautiful lace and silver jewelry of bizarre patterns. Wax figures that rival the work of a Cellini may be seen, admired, and purchased for a few centavos. And the cafes offer strange peppery foods, chile, tamales, tortillos and beverages with queer names. After the fascinating taste of Old Mexico, we'll return again to El Paso to board our special for Kansas City via the Rock Island Line and continue thence over The Milwaukee Road to Chicago . . . and home.

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WHAT WILL AN ORCHARD COST

(From Page 6)

per tree. Pruning is a slight item during the non-bearing period, the collected data showing that not more than 19 cents was spent during the eight years. This figure should be increased, since the saving from crotch splits by more generally careful pruning alone would be more than that. A few moments spent on each tree when it is young forestalls irreparable damage and trouble when the tree is heavy with a crop.

With these major items of expense in mind, it may be concluded that those planting even small orchards may fail to take into account that judicious financing is as necessary as in any other business; that intercrops may not be depended on to pay more than a small part of the total costs of the non-bearing orchard; and that while the cost of nursery stock, pruning, spraying and cultivation is relatively small, they are the factors spelling success or failure of an orchard.

FRUIT REVIEW

(From Page 15)

marketable cling peaches, and there will be about 15,000 tons of freestones, part of which will be dried and the remainder marketed in the fresh state.

The apricot crop will be the largest in the history of the county, being close to 35,000 tons of fresh fruit, 75 per cent of which will be Tiltons, a variety that will be mostly canned, and the remainder will be of the drying varieties, mostly Blenheims.

Our almonds, of which we have approximately 5000 acres, will perhaps produce a record crop. It is the largest for the past 10 years.

The county has very few apples, cherries or prunes. However, there will be at least a normal crop of these fruits. Frost has cut down a few cherries on the river bottoms.

Due to a heavy infestation of grape leaf hopper, possibly there will be a reduction in the total tonnage of grapes. Due to a dry winter, there is also a possibility of a greater number of insect pests than in the past.—*A. A. Jungerman.*

Tehama County. Prunes and peaches (shipping and drying) have almost a full crop, although there are scattered orchards with half to three-quarters of a crop. The same might be said of apricots. Almonds have set very heavily. It is too early to say anything about olives as yet.

The only disease or insect pest which looks at all bad is twig borer (peach worm, not oriental peach moth). The water supply in this county is ample. Some prune orchards and drying peach orchards have been pulled out but they do not represent over five per cent of the bearing acreage. Orchards are better taken care of this year than ever before.—*G. Merrill.*

Tulare County. The outlook is for normal crops in canning peaches, shipping plums, all lines of grapes, but with a shortage in the production of prunes. We are apparently not going to have any frost damage to speak of this spring. Water supplies will be considerably shorter than usual, but this will not necessarily affect production. The low prices of last year have not resulted in any great abandonment of orchard and vineyard properties, although there has been some removal of prunes, canning peaches and table grapes. There is a possibility of severe damage from grape leaf hoppers on the grape crop. This, however, is only a matter of conjecture at the present time. It is too early to say anything about the prospects for olives or for citrus fruits.—*W. E. Gilfillan.*

OREGON

Benton County. The apple crop here at the present time promises to be somewhere near normal. Under normal conditions we expect to ship out approximately 150 carloads. Peaches are sufficient only for local consumption. On account of frost, the crop promises to be short. With pears the condition of the crop is good but many of the winter varieties are being worked over to Bartletts. Strawberries are about stationary, as are the remainder of the small fruits.—*C. R. Briggs.*

Clackamas County grows strawberries, red raspberries, blackberries and loganberries on quite an extensive scale. These crops are all in normal condition and it looks as if we will have a much better strawberry crop than last year. The cane fruits will be normal as they were last year. We also grow walnuts, filberts, Italian prunes, and, to a limited extent, apples, pears and peaches. These fruits are all in excellent condition. Sweet cherries are also in good condition.

Our growers have taken usual care of their crops, perhaps better care of their cane fruits than usual, and we will not have any carryover of diseases but may have a greater insect carryover on account of the mild winter. Until a few weeks ago we had a deficiency of winter moisture, but extensive rains since that time have given us a good ground water supply and things are normal, if not a little bit better.—*J. J. Inskeep.*

Hood River County. This is the off year for apples but the crop will probably be greater than 1929, which was the lightest in

(To Page 18)

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SONG POEM WRITERS

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GEORGE WASHINGTON, FRUIT GROWER [From Page 5]

drought which meant destruction to his crops. In 1785, for example, he has much to say in his diary about the unusually long, dry spring.

"Most of my transplanted trees," he laments, "have a sickly look. The small pines in the Wilderness are entirely dead. The larger ones in the walks, for the most part, appear to be alive (as yet)—almost the whole of the holly are dead—many of the ivy, which before looked healthy and well, seem to be declining—few of the crab trees had put forth leaves; not a single ash tree has unfolded its buds; whether owing to the trees declining or any other cause. I know not . . . The lime trees, which had some appearance of budding when I went away, are now withering—and the horse chestnut and tree box from Col. Harry Lee's discover little signs of shooting.—The hemlock is almost entirely dead, and bereft of their leaves;—and so are the live oak.—In short half of the trees in the shrubberies and many in the walk are dead and declining."

But dry as it was, he kept up the struggle, for in the middle of the drought he planted 48 mahogany tree seeds, brought as a present to him from the West Indies by his nephew, George A. Washington. Then came the great care of having such plantings watered by hand.

There never was a more humane man than George Washington. He took the most scrupulous care of his slaves and hired men, never failing to employ physicians for them when they were ill. But when they were well he insisted on their doing a full day's work and doing it willingly and well.

He had a genius for getting work out of people by appealing to their special peculiarities, ambitions or weaknesses. An ideal illustration of this is the story of the contract he made with a white gardener named Philip Barter.

This Mr. Barter was a hefty two-fisted drunkard; and Washington, after reading him many lectures, began to despair of making him put work before wine. Finally, however, the lord of the manor made a contract with the gardener which brought the desired results.

In this deal, which is preserved today, a formal document signed by Washington and Barter and witnessed by the former's secretary, Tobias Lear, the master promised that if the servant would stay sober and attend to his duties for one year, Washington would give him "$4 at Christmas with which to stay drunk four days and four nights; $2 at Easter with which to stay drunk two days and two nights; $2 at Whitsuntide with which to stay drunk two days and two nights," and, in addition to that, a drink of good whiskey every morning throughout the year and a swig of Jamaica rum daily with his dinner.

Washington created beauty whenever he had an opportunity. That imperial imagination of his which foresaw the political problems of this republic and envisioned in advance the movements of troops on the battlefield, was equally true and effective when it laid plans for landscaping and ornamental gardening.

If every gardener and fruit grower gave to his business the devotion, care, untiring investigation and unflagging interest and industry that characterized George Washington in this phase of his work, the orchards of America would be more fruitful and its landscapes more lovely.

The George Washington Bicentennial Commission, which is now completing its plans for the celebration of this event, was created by a special act of Congress in 1924, six years ago. The President of the United States is the chairman. Its personnel of 19 members consists of the Vice President of the United States, the Speaker of the House of Representatives, United States Senators and Representatives and distinguished men and women appointed by the President from all sections of the country.

The George Washington Bicentennial Commission, with offices in the Washington Building, Washington, D. C., will be glad to furnish upon request to any individual, organization, or community, detailed information on how the bicentennial celebrations can best be staged.

FRUIT REVIEW

(From Page 17)

years. Mild winter and rainy weather indicate more pest trouble than normal. Some chance of scab unless correct sprays are applied. Pears show very heavy bloom but just blossom time. Favorable pollination weather needed. Cherries show lighter bloom than normal.

More damaged apple trees were removed last winter than in many years. New and replacement acreage, largely pears, should keep up total tonnage. Heaviest planting of sweet cherries ever was made this spring. Some danger of shortage of irrigation water but late rains have greatly improved the situation.—*A. L. Marble.*

Jackson County. Apples: Ninety-five per cent of our apple acreage is of the Newtown variety and this year represents the off bearing season. The possible crop will amount to about three-fourths of last season's production. Condition of trees good. Some few orchards failed to receive their annual pruning. Insects and diseases no more prevalent than any other season.

Peaches: Some damage from late frost; not sufficient, however, to reduce the commercial crop. All orchards well cared for, with the insects and diseases at a minimum. Total crop will amount to some 30 cars over and above local demand.

Pears: In full bloom at the present time, with a normal crop in prospect. Orchards are in good physical condition as far as winter injury is concerned. Twenty-five per cent of acreage failed to receive a dormant spray. Blight and other diseases are being well taken care of. Some 500 acres of new acreage will come into bearing this summer.

Soil moisture is and will be an important factor in maturing the above crops. Growers are anticipating a drought condition and are doing everything to conserve soil moisture. The storage waters held by the irrigation districts are less than a normal supply and the orchards will probably be limited to one irrigation during the season. Trees poorly located as to soil will no doubt produce fruit of inferior quality.

Growers as a whole are carrying on their orchard operations as during a normal season. They are reducing their expenses wherever possible without injury to this season's crop or the possible next season's crop.—*L. P. Wilcox.*

Josephine County. The apple and pear crops appear about normal. Buds look strong and healthy. Growers have made a strenuous and conscientious effort to clean up all diseases carrying over and everything seems to be favorable in that connection.

The peach crop is not a very large one and is not shipped to any other than nearby local markets. The grape crop gives indication of being normal, producing a crop of some 25 to 30 cars of Tokays, or about 10 times as many as last year, when the yields were very light due to heavy freezing the winter before. There will be about 250 acres of strawberries, all new acreage, coming into bearing this year and under contract for barrelling purposes.—*H. B. Howell.*

Lane County. Conditions normal. No water deficiency. Some increase in acreage and no abandonment of orchards. Pest and disease condition normal.—*O. S. Fletcher.*

Polk County. Fruiting wood of our 16,000 acres of various fruits came through the winter in above the average condition. Full blossom is under way and the prospects are very bright. Three weeks of fairly steady precipitation has increased our ground water supply materially but it may be deficient still. Practically no new acreages will come into bearing this year and spraying has been practiced more fully than usual.—*J. R. Beck.*

WASHINGTON

Snohomish County. The prospects are very good for a large crop of sour cherries and berries this year. Last fall and winter both were exceptionally favorable to good growth. Our greatest insect injury here comes in the form of strawberry root weevil and there is a little reported damage to the strawberry crop from this source. I believe on the whole we could say that our prospects this year are about the average as far as the present condition is concerned.—*A. Z. Smith.*

Douglas County. The fruit trees have come through the winter in fine shape since we had a mild winter and practically all of the varieties of apples and soft fruits have a heavy set of fruit. Pears, apricots and cherries are in bloom now and apples will be in full bloom in 10 days or two weeks. We will have 200 or 250 young trees come into bearing this spring. The majority of the orchardists took extra good care of their orchards and have pests and insects under very good control.—*E. L. Harms.*

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King County. The condition of all of the fruit in this section is normal, with fruit buds coming through the winter in good shape. Fruit generally was not injured by the dry summer of 1930. There is a slight increase in the plantings of sour cherries. Otherwise, fruit conditions are normal for this section.—*A. E. Lovett.*

Yakima County. All classes of fruit in this district have a good heavy set of blossoms and since we are in an irrigated section the drought of last summer had no influence on our set of buds. The prospects until the last three days here have been that we would have a very good crop in all kinds of fruit, however each of the last three nights low temperatures have prevailed, with the result that there has been considerable damage in the areas of low elevation. We have not had sufficient time to check the entire district; it will take some time to gather definite information relative to the damage done, however it has been serious enough so that we know there will be some reduction in crops.

We have had no problems here with diseases and insects except, of course, the codling moth and San Jose scale. During the last few years spray practices and spray equipment have been so improved that the loss from these pests is not as serious as it has been in years past.

As we depend on irrigation for our moisture ground water supply is generally not as important a matter in this country as in the non-irrigated sections. There is a small percentage of new acreage coming into bearing this year and of course some trees will be producing larger yields this year than in years previous. There are practically no orchards being abandoned as unprofitable orchards although there are a few. These few are in such a minority, however, that we can report no total for the valley. We did not find any growers neglecting their orchards last year but found that they kept them up in very good condition.—*W. P. Brown.*

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